



Midpeninsula Regional  
Open Space District

R-16-62  
Meeting 16-11  
May 25, 2016

## SPECIAL MEETING AGENDA ITEM 1

### AGENDA ITEM

Approval of the Bid Plan Set for the Mount Umunhum Road Improvement Project and Authorization to Release the Request for Bids

### GENERAL MANAGER'S RECOMMENDATIONS

A handwritten signature in black ink, appearing to read "S. [initials]".

1. Approve the Mount Umunhum Road Improvement Project Design and Bid Plan Set.
2. Delegate to the General Manager the authority to approve any necessary changes to the Project Design and Plans, and Direct that the "As Built" Designs Come Back to the Board for Final Approval.
3. Authorize the General Manager to advertise the Request for Bids for the Mount Umunhum Road Improvement Project.

### SUMMARY

The Midpeninsula Regional Open Space District (District) entered into a contract with the civil engineering firm Pavement Engineering Inc., (PEI) on July 8, 2015 (R-15-103) to develop construction plans detailing the recommended upgrades to Mount Umunhum Road. PEI has developed a bid plan set of construction documents that have been peer-reviewed by a second civil engineering firm, Sandis, and deemed ready to include in a Request for Bids (RFB) to implement the Mount Umunhum Road Improvement Project. Sufficient funds remain in the Fiscal Year (FY)2015-16 budget to complete the bidding process and award a repair contract by end of June. Funds for construction have been requested in the proposed FY2016-17 budget, with a targeted start of early July. In order for the District to construct road improvements during the 2016/2017 construction season, condemnation proceedings for Mount Umunhum Road rights have been initiated with the Santa Clara County Superior Court to obtain possession of the necessary rights. Issuance of the RFB is not dependent on securing the property rights; however, construction of the roadway improvements requires the District's possession of the road rights before proceeding.

### MEASURE AA

The project is part of Measure AA (MAA) Portfolio #23, Mount Umunhum Public Access and Interpretation Projects: Open Mt. Umunhum for multi-use public access to the summit via the road and a trail; open Bay Area Ridge Trail and nearby trail connections; and preserve additional open space and complete wildlife corridor, in the amount of \$27.972 million of which \$3.965 million has been allocated for the Mount Umunhum Road Improvement Project. In addition, the project is included in the Board-approved Measure AA 5-year Project List.

## BACKGROUND

Mount Umunhum Road was built by the federal government to provide vehicular access to the former Almaden Air Force Station (AFS), which was constructed in the late 1950s and dedicated for operation in 1958. The AFS was in use for 22 years, closing in 1980. At its peak, the AFS housed approximately 120 people, including employees and their families. On average, the facility employed approximately 30 stationed military personnel, and 50 to 100 civilian personnel. Historical records indicate that in 1971 the roadway had a daily two-way traffic volume of roughly 190 vehicles. The current road is 29,800 linear feet (LF) (approximately 5.6 miles) from the summit of Mount Umunhum to the Hicks Road intersection, and ranges in width from approximately 15.7 to 28 feet wide, with an average roadway width of 21.7 feet.

Historically, the two-lane rural road was used to access the former AFS. In order to provide general public access to the Summit, property rights need to be perfected for the roadway and the necessary improvements completed along the road, which include resurfacing and installing turnouts, curbs, guardrails, and other safety infrastructure. Engineered slope stabilization measures are also needed to address a number of geologic issues associated with the roadway, including slip-outs and slope failures above and below the roadway that are potential sources of sediment. In general, the substructure of the roadway is in very good condition, and a majority of the required improvements focus on the upper portion of the roadway structure that is in disrepair due to general use and lack of maintenance. After roadway improvements are completed, Mount Umunhum Road will remain a two-lane, rural road for visitors to access the Summit during open Preserve hours and at the same time benefiting the neighbors who use the road to access their properties.

## DISCUSSION

In October, 2012, the Board approved the Mount Umunhum Environmental Restoration and Public Access Project (R-12-104), which includes the Bald Mountain Parking Area, the Mount Umunhum Trail, ecological restoration and development of visitor amenities at the summit, and roadway upgrades and safety improvements to Mount Umunhum Road to accommodate public vehicular use to allow all visitors regardless of physical ability to reach the summit. Access to the summit of Mount Umunhum was identified as a priority action during the District's Vision Plan process, and funding for roadway improvements was included in Measure AA, under Priority Action (Portfolio) #23, which passed in June, 2014.

In July, 2015, the District selected PEI to design and develop the construction plans for the proposed roadway improvements. PEI has developed the requested bid plan set, which is now ready for issuance as part of a public bid process to implement the recommended upgrades to Mount Umunhum Road and provide safe public vehicular access to the summit.

In May, 2016, PEI's road design was peer-reviewed by Sandis. In general, Sandis concurred with PEI's design but recommended additional information and details to the plans and specifications. Sandis also recommended installation of new guardrail to the road in addition to replacing existing guardrail. PEI will update project plans and specifications by May 31, 2016 to address the comments provided by Sandis.

The road construction project is being closely coordinated with the Summit Project that is focused on public access improvements and site restoration on the mountaintop. The two design teams and Project Managers have worked closely together in an effort to ensure integration and

coordination of these designs, contract documents, construction timelines, and administration to ensure successful delivery of the Mount Umunhum Road Improvement Project and the Summit Project.

The Mount Umunhum Road Improvement Project's bid plan set includes the following proposed improvements and upgrades to Mount Umunhum Road and associated infrastructure:

### **Proposed Road Surface Improvements**

- Resurface the entirety of Mount Umunhum Road from the intersection of Hicks Road to the flagpole area near the Summit using either a Cold In-place Recycling (CIR) or Pulverize & Replace Process (P&R) (remainder of roadway to the summit area of the mountain will be repaired as part of the Summit Project);
  - The Request for Bids will solicit for both resurfacing techniques, as they have a similar cost, performance, and life expectancy (20 years).
  - Both techniques recycle and utilize 100% of existing roadway material during the resurfacing process.
  - Each process requires different types of machinery; also typically, General Contractors can perform the P&R process, whereas special licensing is required for the CIR process.
- Addition of a double chip seal to entire roadway surface;
  - Chip seal increases the life of the road by 10 to 15 years and provides for increased traction.
- Shallow and deep road settlement repairs;
- New Gabion retaining walls below roadway; and,
- 20-foot paved driveway aprons for the four (4) private properties whose residents use the road to access their properties.

<b>Proposed Surface Improvements</b>	<b>Quantity</b>
Resurface Entire Roadway, 18' Wide	532,260 square feet (SF)
Shallow & Deep Road Settlement Repairs	30,888 SF
Gabion Retaining Walls	89 linear feet (LF)

### **Proposed Road Safety Improvements**

Mount Umunhum Road is designated as a multi-modal roadway allowing for vehicular and bicycle traffic. The sharing of the narrow and steep roadway by the two transportation methods required additional attention during the Project design and development process, resulting in roadway safety design elements that address both the safety needs of vehicular drivers and bicyclists. Additionally, the Project EIR and Mitigation Monitoring Report were developed with the understanding of an expected increase in vehicular and bicycle traffic on the roadway, and outlined the required safety measures for incorporation into the Project plans in order to provide a means for bicyclists to share the roadway with vehicles in a safe manner. These include:

- New guardrails, replacement of existing guardrails and end terminals;

- Roadway striping, fog lines, and botts' dots;
- Signage related to traffic calming, road sharing, pedestrian crossing, speed limit, no parking, and signage required by the Project's Mitigation Monitoring Plan;
- Roadside concrete erosion control barriers;
- Erosion and rock netting;
- Removal of roadside trees, under road roots, and upslope boulders and material at risk of failure;
- Removal and replacement of a roadside asphalt dike.

<b>Proposed Safety Improvements</b>	<b>Quantity</b>
Replacement of Existing Guardrails	3,256 LF
New Guardrail End Terminals	1,450 LF
Erosion Control Barriers	2,520 LF
Erosion Control Netting	362 LF
Asphalt Dike	14,204 LF
Root Removal	2,493 SF
Tree, Stump, and Root Removal	26 each (EA)
Boulder & Material Removal	860 LF

### **Proposed Road Drainage Improvements**

- Removal and replacement/installation of drop inlets, curb inlets, asphalt scuppers;
- New roadside V-ditch and rock-lined V-ditch;
- Removal and replacement/installation of drop inlets and headwalls;
- New sub-surface and edge drains; and
- Removal and replacement of damaged culverts and drain pipes.

<b>Proposed Drainage Improvements</b>	<b>Quantity</b>
Drop Inlets	62 EA
Curb Inlets	4 EA
Asphalt Scuppers	402 LF
V-Ditch	21,981 LF
Head Walls	32 EA
Sub and Edge Drains	110 LF
New Drainage Pipe	343 LF

### **Additional Roadway Improvements**

- Installation of a new roadway gate on Mount Umunhum Road between the Hicks Road intersection and Jacques Ridge parking lot; and
  - The gate will be a solar powered electric automatic double leaf gate, similar to the existing gate at the entrance to the Bald Mountain Parking Area.
  - Additionally, two fully shielded, downturned solar powered motion-triggered security lights will be installed at the gate location to improve nighttime access for District staff and neighboring property owners, as well as provide an added level of security. The lights will be mounted on a new light pole, with one light pointed down towards Hicks Road, and the other positioned down towards the Jacques Ridge parking area and up Mount Umunhum Road.

- Five traffic pullouts along Mount Umunhum Road.
  - Each pullout will have a five-foot paved apron from the edge of the roadway, with the remaining pullout area consisting of compacted gravel.
  - All pullout locations will have “No Parking” signs, and are intended for temporary refuge from Mount Umunhum Roadway traffic.

Approval of the Project bid plan set and the issuance of a Request for Bids (RFB) is the first step in selecting a qualified contractor to construct the new roadway upgrades. The District is in the process of resolving multiple, long-standing real property and right-of-way issues that need to be addressed to ensure that the District can provide and protect public access to the summit of Mount Umunhum. As of January 2016, special counsel initiated condemnation proceedings in Santa Clara County Superior Court to obtain possession of the necessary rights so that the District can construct road improvements during the 2016/2017 construction season. Issuance of the RFB is not dependent on securing the property rights; however, construction of the roadway improvements requires the District’s appropriate possession of the road before proceeding.

In order to promote efficiency in and professional oversight of the design and construction process, the General Manager recommends that the Board delegate to the General Manager the authority to approve any necessary changes to the project design and plans moving forward. These changes could include modifications to the plans and specifications, and increases or decreases in the quantity of work to be performed or materials, equipment, or supplies furnished. The General Manager, through the Engineering and Construction Manager, would only approve changes if the modifications are consistent with previously stated Board direction and design approvals, and the total cost remains both within the Board-approved project budget and the contract “not-to-exceed” amount as approved by the Board (presently scheduled to come before the Board in July). Any changes that require additional funds beyond those previously authorized by the Board will be brought first to the Board for review and consideration of approval. To keep the Board apprised of these changes, the General Manager would provide updates as needed under the Biweekly Reports. Moreover, the Board will be asked, at the conclusion of the project, to formally accept the improvements and approve the final As Builts.

## FISCAL IMPACT

Funds in the amount of \$3.6 million will be requested in the proposed FY2016-17 budget to complete the construction of the Mount Umunhum Road Improvement Project as described above. Project expenses are eligible for Measure AA reimbursement.

## BOARD COMMITTEE REVIEW

Given the high level of Board interest in the Summit Project and associated public access and roadway improvements, this item is being brought directly to the full Board.

## PUBLIC NOTICE

Public notice of this Agenda Item was provided as required by the Brown Act. Additional public notice was provided to interested parties and Mount Umunhum Road neighbors.

Related to this item, a neighborhood meeting was held on February 25, 2016 at the Los Gatos Adult Recreation Center where District staff presented the draft roadway designs and plans to

neighboring private property owners, residents whose driveways are connected to Mount Umunhum Road, and a representative from San Jose Water Company. The District will coordinate closely with these residents and neighbors prior to and during construction of the roadway improvements. Eight neighbors and members of the public attended the meeting, where comments focused on potential security issues on the roadway and neighboring properties once public vehicular traffic is allowed to the summit of Mount Umunhum. These comments have been incorporated into the Project where appropriate.

## **CEQA COMPLIANCE**

The Project was evaluated as part of the Environmental Impact Report (EIR) and Mitigated Monitoring Plan (MMP) approved by the Board on October 17, 2012, for the Mount Umunhum Environmental Restoration and Public Access Project in Sierra Azul Open Space Preserve (R-12-104). In 2015, the District prepared an Addendum to the 2012 EIR to analyze minor modifications to the Summit and Road improvements that included installation of gates and fencing, and acquiring a road access easement to Mount Thayer for District vehicles, contractors, and emergency access only (no general public access). The EIR Addendum analyzed these modifications to the Project to fulfill the requirements of the California Environmental Quality Act (CEQA)

## **NEXT STEPS**

If approved, the General Manager will direct staff to move forward with the public bidding process for construction of the Mount Umunhum Road Improvement Project as set out herein. Once the bidding process is completed, in approximately mid-July, staff will present the results to the Board for consideration of award of contract for construction of the road improvements. Award of the contract for construction and the construction itself will be subject to the District's successful resolution of its concurrent judicial proceedings to obtain possession of the necessary road rights.

### **Attachments**

1. Proposed Mount Umunhum Road Improvement Bid Plan Set
2. Sandis Preliminary Peer-Review of Proposed Mount Umunhum Road Bid Plan Set

### **Responsible Department Head:**

Jane Mark, AICP, Planning Manager, Planning Department

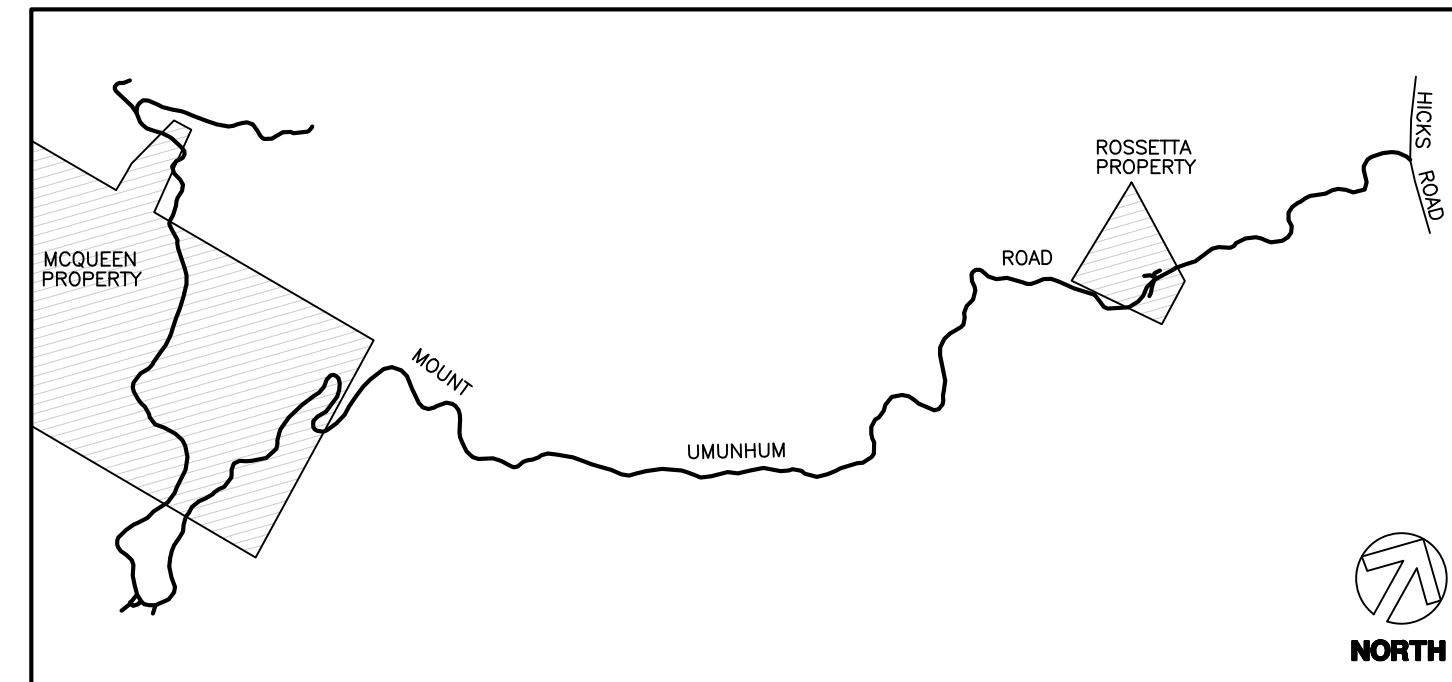
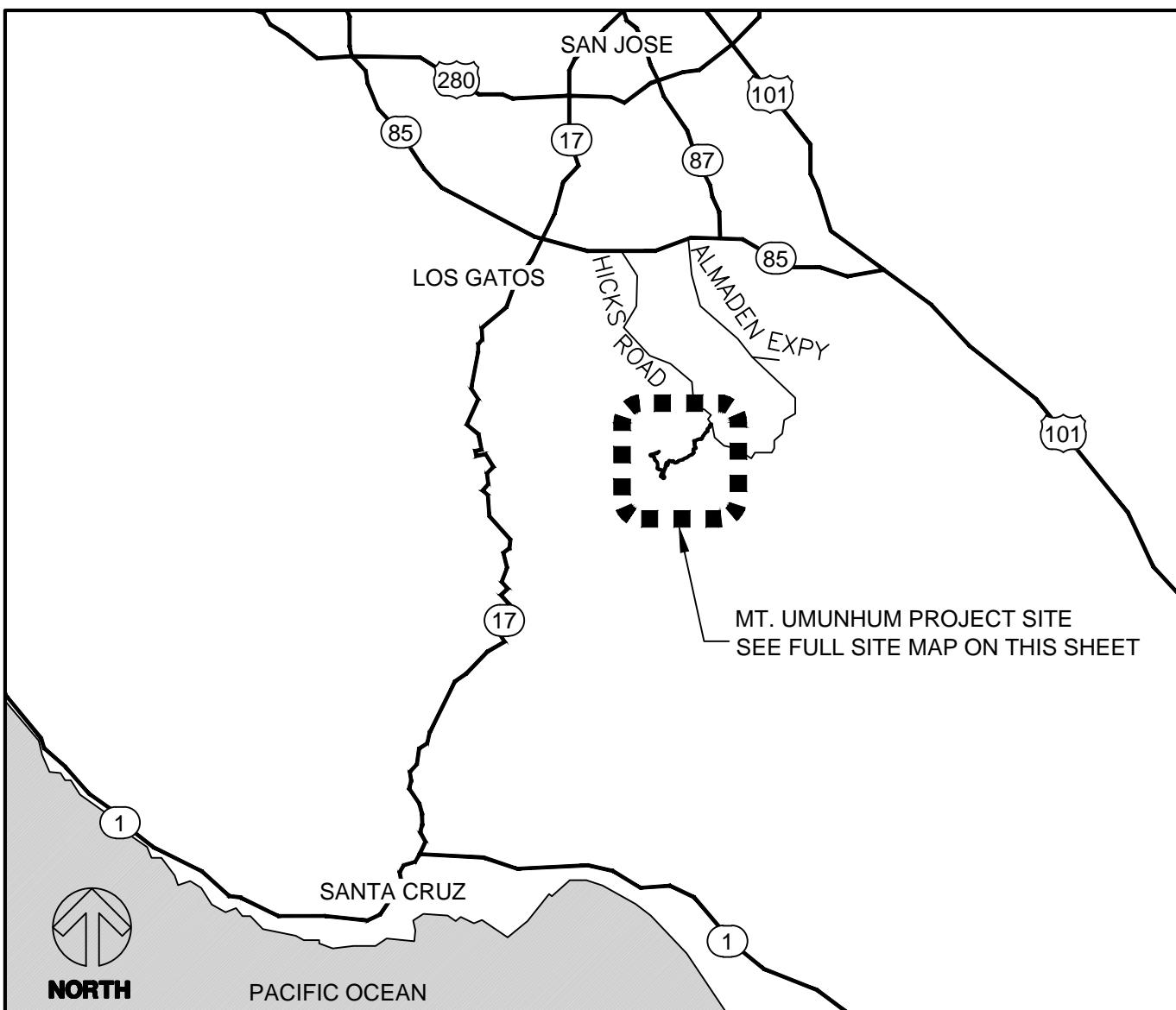
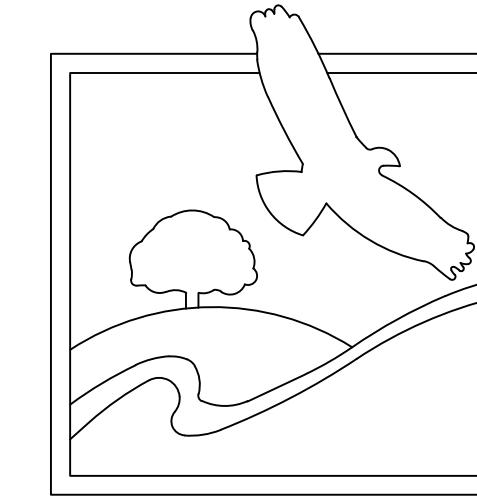
Jason Lin, Engineering and Construction Manager, Engineering & Construction Department

### **Prepared by:**

Zachary Alexander, Capital Project Manager II, Engineering and Construction Department

# MT. UMUNHUM ROAD DESIGN PROJECT

## MIDPENINSULA REGIONAL OPEN SPACE DISTRICT



Path: W:\SHARED\R\DRIVE\ACTIVE\_PROJECTS\MIDPENINSULA\_OPEN\_SPACE\_DISTRICT\150175 - MT. UM. ROAD REHAB DESIGN\DRAWINGS\150175\_SITE01.DWG Plot Date: 5/16/2016 7:06 PM

### LEGEND

	MISCELLANEOUS PAVING		INSTALL EDGE DRAIN
	REMOVE EXCESS ASPHALT		EX. CULVERT PIPE
	SHALLOW ROAD SETTLEMENT REPAIRS		EX. CULVERT CHANNEL
	DEEP ROAD SETTLEMENT REPAIRS		EX. FLOW LINE/TOE OF SLOPE
	REMOVE TREE ROOTS		EX. TOP OF SLOPE
	REMOVE BOULDERS ON UPSLOPE		EX. PAVED DITCH
	PLACE BASE ROCK		PROPERTY LINE BOUNDARY
	REMOVE & REPLACE/INSTALL HMA DIKE		EASEMENT LINE
	INSTALL MOUNTABLE HMA DIKE	DS# □	DRAINAGE STRUCTURE
	REMOVE & REPLACE/INSTALL GUARDRAIL	CO ○	CLEANOUT
	TANGENT GUARDRAIL END TERMINAL		REMOVE TREE
	FLARED GUARDRAIL END TERMINAL		REMOVE TREE STUMP
	INSTALL PRE-CAST CONCRETE BARRIER		ROADSIDE MARKER/PADDLE
• • • •	INSTALL ROCK FENCE		ROADSIDE SIGNAGE
	INSTALL PIPE		HMA SCUPPER (N)
	INSTALL ROCK-LINED DITCH	● #	CORING LOCATION
	INSTALL V-DITCH	AC	ASPHALT CONCRETE (E)
	REMOVE & REPLACE/INSTALL PAVED DITCH	HMA	HOT MIX ASPHALT (N)
	INSTALL PCC CURB	PCC	PORTLAND CEMENT CONCRETE
	INSTALL PCC SWALE	JRE	DETAIL NUMBER   SHEET NUMBER

T.1

SHEET INDEX	
SHEET NO.	SHEET DESCRIPTION
T.1	TITLE SHEET
T.2	ITEM OF WORK TABLES
T.3	ITEM OF WORK TABLES
D.1	DETAILS
D.2	DETAILS
D.3	DETAILS
D.4	DETAILS
D.5	DETAILS
C.1	STA. 30+00 TO 37+59, 300+00 TO 306+80, 400+00 TO 401+97
C.2	STA. 37+59 TO 55+22
C.3	STA. 55+22 TO 69+26
C.4	STA. 69+26 TO 84+93
C.5	STA. 84+93 TO 95+33
C.6	STA. 95+33 TO 106+29
C.7	STA. 106+29 TO 124+53
C.8	STA. 124+53 TO 146+76
C.9	STA. 146+76 TO 161+62
C.10	STA. 161+62 TO 176+31
C.11	STA. 176+31 TO 198+42
C.12	STA. 198+42 TO 216+41
C.13	STA. 216+41 TO 229+21
C.14	STA. 229+21 TO 247+31
C.15	STA. 247+31 TO 264+70
C.16	STA. 264+70 TO 283+53
C.17	STA. 283+53 TO 298+25

<b>MIDPENINSULA REGIONAL OPEN SPACE DISTRICT</b> <b>MT. UMUNHUM ROAD REHABILITATION PROJECT</b>	<b>Pavement Engineering Inc.</b>
	You can ride on our reputation
	Corporate Office: 3465 Sacramento Drive, Suite A San Luis Obispo, CA 93401-6015 805-781-2255
<b>TITLE SHEET</b>	<b>NOT FOR CONSTRUCTION</b>
REV. DATE	DESCRIPTION
JRE	AFP

GRADING & EXCAVATION									
Beginning Station	Ending Station	Side of Road	Cross-Section Area (sq yd)	Stockpile Volume (cu yd)					
31+78	32+50	L	0.052	1.24					
32+50	34+88	L	0.207	16.41					
33+61	35+35	L	0.156	9.02					
36+00	37+50	L	0.156	7.78					
37+50	38+45	L	0.233	7.39					
38+45	42+25	L	0.512	64.83					
42+25	44+14	L	0.233	14.70					
44+14	44+40	L	1.714	14.66					
44+40	50+35	L	0.233	46.28					
50+35	51+21	L	1.688	48.38					
51+21	51+40	L	0.233	1.48					
51+40	53+40	L	1.688	112.52					
53+40	54+90	L	0.233	11.67					
54+90	61+70	L	1.136	257.39					
61+70	62+80	L	0.233	8.56					
62+80	63+73	L	1.688	52.32					
63+73	64+80	L	0.233	8.32					
64+80	67+80	L	1.136	113.56					
68+75	69+50	L	0.233	5.63					
69+50	70+65	L	-	158.15					
70+65	71+00	L	1.688	19.69					
71+00	72+00	L	0.233	7.78					
72+00	73+00	L	1.688	56.26					
73+00	73+80	L	0.233	6.22					
73+80	74+80	L	1.688	56.26					
74+80	76+00	L	0.233	9.33					
76+00	77+10	L	1.688	61.89					
77+10	78+77	L	0.233	12.99					
81+70	82+10	L	0.778	10.37					
82+10	83+50	L	0.918	42.63					
83+50	85+70	L	0.999	73.24					
85+70	85+80	L	0.233	0.78					
85+80	89+25	L	0.442	50.80					
89+25	90+00	L	0.233	5.83					
90+00	91+00	L	0.736	24.53					
91+00	92+50	L	0.233	11.67					
② ~92+45 L - 20.72									
92+50	94+20	L	1.151	65.23					
94+20	98+70	L	0.233	35.00					
101+80	103+00	L	1.151	46.04					
103+00	118+60	L	0.233	121.33					
118+60	123+00	L	1.151	168.83					
123+00	132+00	L	0.233	70.00					
137+45	139+75	R	0.233	17.89					
143+50	146+19	L	269'						
146+25	149+80	L	355'						
151+53	156+27	L	474'						
157+08	158+55	L	75'						
164+64	167+17	L	253'						
166+94	172+90	R	596'						
173+55	176+87	L	332'						
182+50	182+97	L	47'						
187+00	188+50	L	150'						
215+81	216+25	R	44'						
216+97	204+45	R	695'						
217+45	217+97	R	52'						
220+00	225+73	R	573'						
228+25	230+55	R	230'						
234+16	234+95	R	79'						
236+50	238+30	R	180'						
242+25	243+56	R	131'						
243+62	244+14	R	52'						
244+20	246+35	R	215'						
246+41	248+00	R	159'						
248+98	251+43	R	245'						
251+49	254+18	R	269'						
254+24	256+05	R	181'						
244+61	244+90	L	29'						
257+35	257+78	R	43'						
262+00	262+20	R	20'						
263+05	264+97	L	192'						
223+66	224+66	R	100'						
229+36	230+55	R	119'						
230+36	232+24	L	488'						
237+30	275+33	L	203'						
275+39	277+59	L	220'						
283+26	286+25	L	299'						
287+45	288+40	L	95'						

ROADSIDE SIGNAGE				
Location	Side of Road	Type of Work	Type of Sign	
Sign Designation (MUTCD or MROSD*)				
31+80	R	Install	Stop	R1-1
33+00	R	Install	25 MPH Speed Limit	R2-1 (25)
68+30	L	Install	Falling Rock	W50-1 (CA)
78+80	L	Install	No Parking	R26 (CA)
78+80	L	Install	Private Driveway	TR-6*
81+50	R	Install	No Parking	R26 (CA)
94+70	L	Install	Falling Rock	W50-1 (CA)
95+10	R	Install	Curve	W1-2A (20) (Left)
98+00	R	Install	No Parking	R26 (CA)
98+00	R	Install	Private Driveway	TR-6*
98+35	R	Protect	Low Gear	-
98+55	L	Install	Curve	W1-2A (20) (Right)
98+70	R	Replace	25 MPH Speed Limit	R2-1 (25)
99+00	R	Install	Curve	W1-2A (20) (Left)
101+00	L	Install	Curve	W1-2A (20) (Right)
103+50	L	Install	Falling Rock	W50-1 (CA)
122+50	L	Install	Falling Rock	W50-1 (CA)
131+10	R	Install	Curve	W1-2A (20) (Right)
134+25	L	Install	Curve	W1-2A (20) (Left)
137+30	R	Install	Curve	W1-2A (20) (Left)
140+14	R	Install	No Parking	R26 (CA)
142+00	R	Install	Curve	W1-2A (20) (Right)
144+50	L & R	Remove	Trespassing	
149+75	R	Install	No Parking	R26 (CA)
149+75	R	Install	Private Driveway	TR-6*
158+68	L	Install	No Parking	R26 (CA)
159+04	R	Install	No Parking	R26 (CA)
173+24	L	Install	No Parking	R26 (CA)
173+55	R	Install	No Parking	R26 (CA)
173+55	R	Install	Private Driveway	TR-6*
188+51	L	Install	No Parking	R26 (CA)
198+50	L	Install	Falling Rock	W50-1 (CA)
204+30	L	Remove	Trespassing	
204+30	L	Install	25 MPH Speed Limit	R2-1 (25)
205+45	L	Protect	Trailhead	-
206+45	R	Protect	Crosswalk	-
206+52	L	Protect	Crosswalk	-
208+00	R	Install	25 MPH Speed Limit	R2-1 (25)
220+90	L	Install	No Parking	R26 (CA)
226+50	R	Install	Falling Rock	W50-1 (CA)
230+05	R	Install	Falling Rock	W50-1 (CA)
237+80	R	Install	Falling Rock	W50-1 (CA)
239+00	R	Install	Curve	W1-2A (20) (Right)
241+00	L	Install	Curve	W1-2A (20) (Left)
254+34	L	Install	No Parking	R26 (CA)
254+34	L	Install	Private Driveway	TR-6*
262+70	L	Protect	No Parking	R26 (CA)
262+70	L	Install	Private Driveway	TR-6*
262+82	R	Install	No Parking	R26 (CA)
262+83	R	Install	Private Driveway	TR-6*
277+50	R	Install	No Parking	R26 (CA)
283+76	L	Install	Falling Rock	W50-1 (CA)
288+20	L	Install	No Parking	R26 (CA)
288+20	L	Install	No Stopping	R26(S) (CA)
293+70	L	Replace	25 MPH Speed Limit	R2-1 (25)
294+23	L	Protect	Trailhead	-
298+10	R	Install	Stop	R1-1
306+22	L	Install	Stop	R1-1
306+68	R	Install	Yield	R1-2
401+00	R	Install	Stop	R1-1
TOTAL NEW SIGNS =			52 ea	
TOTAL =			67 ea	

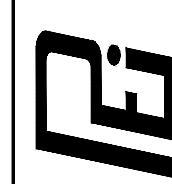
ROADSIDE PADDLES			
Location	Side of Road		
33+87	R		
36+56	R		
49+10	R		
49+65	R		
50+30	R		
56+40	R		
60+50	R		
61+50	R		
62+23	R		
62+40	R		
72+55	R		
73+95	R		
86+00	R		
111+90	R		
112+55	R		
113+08	R		
113+55	R		
124+10	R		
127+40	R		
134+25	R		
137+30	R		
142+00	R		
149+15	R		
149+80	R		
159+25	R		
159+55	R		
159+75	R		
158+55	R		
158+72	R		
163+30	R		
166+45	R		
170+00	L		
170+87	L		
172+18	L		
177+08	R		
180+20	R		
181+32	R		
181+70	R		
182+25	R		
185+60	R		
186+10	R		
186+80	R		
187+85	R		
188+20	R		
188+50	R		
198+55	R		
204+45	R		
206+45	R		
206+52	R		
208+00	R		
220+90	L		
226+50	R		
230+05	R		
237+80	R		
239+00	R		
241+00	L		
243+05	R		
244+35	R		
245+34	R		
246+20	R		
247+25	R		
248+20	R		
249+20	R		
250+30	R		
253+12	R		
256+45	R		
256+50	R		
256+52	R		
256+55	R		
256+73	R		
256+75	R		
256+78	R		
256+80	R		
256+85	R		
256+90	R		
256+95	R		
256+98	R		
257+00	R		
257+05	R		
257+10	R		
257+15	R		
257+20	R		
257+25	R		
257+30	R		
257+35	R		
257+40	R		
257+45	R		
257+50	R		
257+55	R		
257+60	R		
257+65	R		
257+70	R		
257+75	R		
257+80	R		
257+85	R		
257+90	R		
257+95	R		
257+98	R		
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259+60	R		
259+65	R		
259+70	R		
259+75	R		
259+80	R		
259+85	R		
259+90	R		
259+95	R		
259+98	R		
260+00	R		
260+05	R		
260+10	R		
260+15	R		
260+20	R		
260+25	R		
260+30	R		
260+35	R		
260+40	R		
260+45	R		
260+50	R		
260+55	R		
260+60	R		

EDGE TREATMENT: LEFT SIDE OF ROAD																	
Beginning Station	Ending Station	Items of Work										Features to Remain					
		HMA Dike	Shoulder Backing	V-Ditch	Guardrail/ End Terminal	Concrete Barrier	Paved Driveway/ Transition	Turnout	HMA Scupper	Drainage Structure	Paved Ditch	Edge Drain	PCC Curb	Misc. Paving	Paved Or Concrete Ditch	Drainage Structure	Asphalt Shoulder
30+00	30+50		X														162+97
30+50	32+52																164+64
32+52	32+58																166+05
32+58	33+56	X															167+17
33+56	35+40																173+22
35+40	36+00		X														173+55
36+00	36+27			X													176+87
36+27	36+33										X						176+93
36+33	38+39			X													182+50
38+39	38+45										X						182+97
38+45	40+18			X													183+03
40+18	40+24										X						187+00
40+24	43+97			X													188+50
43+97	44+03										X						189+45
44+03	46+18			X													191+40
46+18	46+24										X						193+12
46+24	51+18			X													193+18
51+18	51+24										X						196+30
51+24	54+67			X													196+36
54+67	54+73										X						197+50
54+73	54+90				X												204+45
54+90	59+22					X											206+64
59+22	59+28						X					X					206+80
59+28	61+70							X									206+89
61+70	63+70			X													207+23
63+70	63+76										X						207+48
63+76	63+90			X													208+67
63+90	64+80		X	X													209+85
64+80	65+09					X											212+03
65+09	65+15										X						212+09
65+15	66+93					X											213+00
66+93	66+99										X						213+75
66+99	67+80						X										215+15
67+80	68+75	X															217+25
68+75	68+85			X													219+90
68+85	68+91										X						220+76
68+91	69+50			X													221+63
69+50	70+67		X														224+72
70+67	70+97			X													224+78
70+97	71+03										X						225+53
71+03	74+82			X													225+59
74+82	75+70		X	X													226+40
75+70	75+76			X													228+00
75+76	75+82										X						230+80
75+82	78+77			X													234+69
78+77	79+35							X									234+75
79+35	81+70		X														235+42
81+70	82+16		X	X													236+33
82+16	84+32			X													236+60
84+32	85+12		X	X													238+48
85+12	85+58			X													238+53
85+58	85+64										X						239+68
85+64	89+10			X													241+23
89+10	89+58		X	X													241+80
89+58	89+64		X								X						244+45
89+64	89+80		X	X													244+51
89+80	90+00			X													244+61
90+00	91+00	X															244+90
91+00	91+70			X													246+00
91+70	92+32		X	X													247+39
92+32	92+38			X								X					247+46
92+38	92+50		X	X													247+50
92+50	94+20					X											250+18
94+20	94+73			X													252+18
94+73	94+79										X						252+24
94+79	98+67			X													252+30
98+67	98+73										X						254+30
98+73	100+80	X															254+70
100+80	102+32					X											255+38
102+32	102+38										X						256+92
102+38	103+00						X										256+98
103+00	106+70			X													261+35
106+70	106+76										X						262+15
106+76	107+70			X													262+70
107+70	107+76										X						263+10
107+76	110+15			X													264+97
110+15	111+38		X	X													265+03
111+38	111+45			X													268+30
111+45	111+51										X						268+36
111+51	116+09			X													273+24
116+09	116+15										X						273+30
116+15	118+54		X									X					275+33
118+54	118+60							X					X				275+39
118+60	121+03						X										277+59
121+03	121+09								X				X				277+65
121+09	123+00							X									282+08
123+00	125+55			X													282+14
125+55	125+61										X</						

EDGE TREATMENT: RIGHT SIDE OF ROAD (CONTINUED)														
Beginning Station	Ending Station	Items of V										Features to Remain		
		HMA Dike	Shoulder Backing	V-Ditch	Guardrail/ End Terminal	Concrete Barrier	Rock Lined Ditch	Paved Driveway/ Transition	Turnout	HMA Scupper	Drainage Structure	Paved Ditch	PCC Curb	Misc. Paving
175+88	180+46	X												
180+46	180+52									X				
180+52	182+00		X											
182+00	182+92	X												
182+92	184+86	X			X									
184+86	191+77		X											
191+77	193+18				X									
193+18	194+00	X			X									
194+00	202+50	X												
202+50	202+56								X					
202+56	203+45	X												
203+45	203+80		X											
203+80	204+45			X										
204+45	206+43		X											
206+43	206+51													X
206+51	206+97		X											
206+97	207+27										X			
207+27	208+00	X												
208+00	211+79											X		
211+79	211+89										X	X		
211+89	211+95										X			
211+95	215+63	X												
215+63	215+75											X		
215+75	215+81										X			
215+81	216+25		X											
216+25	217+45	X												
217+45	217+96			X										
217+96	218+02									X				
218+02	220+00	X												
220+00	221+97			X										
221+97	222+03													X
222+03	223+66			X										
223+66	224+23		X	X										
224+23	224+29		X							X				
224+29	224+66		X	X										
224+66	225+72			X										
225+72	225+78										X			
225+78	227+00	X												
227+00	228+25				X									
228+25	229+36			X										
229+36	230+55		X	X										
230+55	232+35				X									
232+35	234+11					X						X		
234+11	234+17		X								X			
234+17	234+50		X	X										
234+50	234+95			X										
234+95	236+50	X												
236+50	238+30			X										
238+30	238+75				X									
238+75	238+81					X					X			
238+81	240+25					X								
240+25	242+25	X												
242+25	243+56			X										
243+56	243+62										X			
243+62	244+14		X											
244+14	244+20										X			
244+20	244+30			X										
244+30	245+39		X	X										
245+39	246+35			X										
246+35	246+41									X				
246+41	247+50		X	X										
247+50	248+00			X										
248+00	248+82													X
248+82	248+92											X		
248+92	248+98										X			
248+98	251+43			X										
251+43	251+49											X		
251+49	254+18			X										
254+18	254+24											X		
254+24	256+05			X										
256+05	257+35	X												
257+35	257+78			X										
257+78	257+84											X		
257+84	262+00	X												
262+00	262+20			X										
262+20	262+82				X									
262+82	266+60		X											
266+60	267+32				X									
267+32	268+85		X											
268+85	270+62	X												
270+62	270+68											X		
270+68	270+88	X												
270+88	272+30		X											
272+30	274+52	X												
274+52	274+58										X			
274+58	274+73	X												
274+73	276+00		X											
276+00	277+45									X				
277+45	279+12				X									
279+12	279+35		X											
279+35	282+10	X												
282+10	282+13													X
282+13	282+17	X												
282+17	283+48		X											
283+48	289+40	X												
289+40	290+35		X											
290+35	292+80	X												
292+80	295+28													X
295+28	295+46													X
295+46	297+94	X												
297+94	298+00										X			
298+00	298+25		X											
300+00	300+88	X												
300+88	301+32								X					
301+32	304+12	X												
304+12	305+00													X
305+00	306+00	X												
306+00	306+80		X											
400+28	401+04											X		

## **ITEM OF WORK TABI FS**

*Pavement Engineering Inc.*



NOT FOR  
CONSTRUCTION

DRAWN BY: **JRE**  
PROJECT NUMBER: **150175**  
SCALE: **1" = 30'**  
DATE: **MAY 2016**  
SHEET NUMBER:

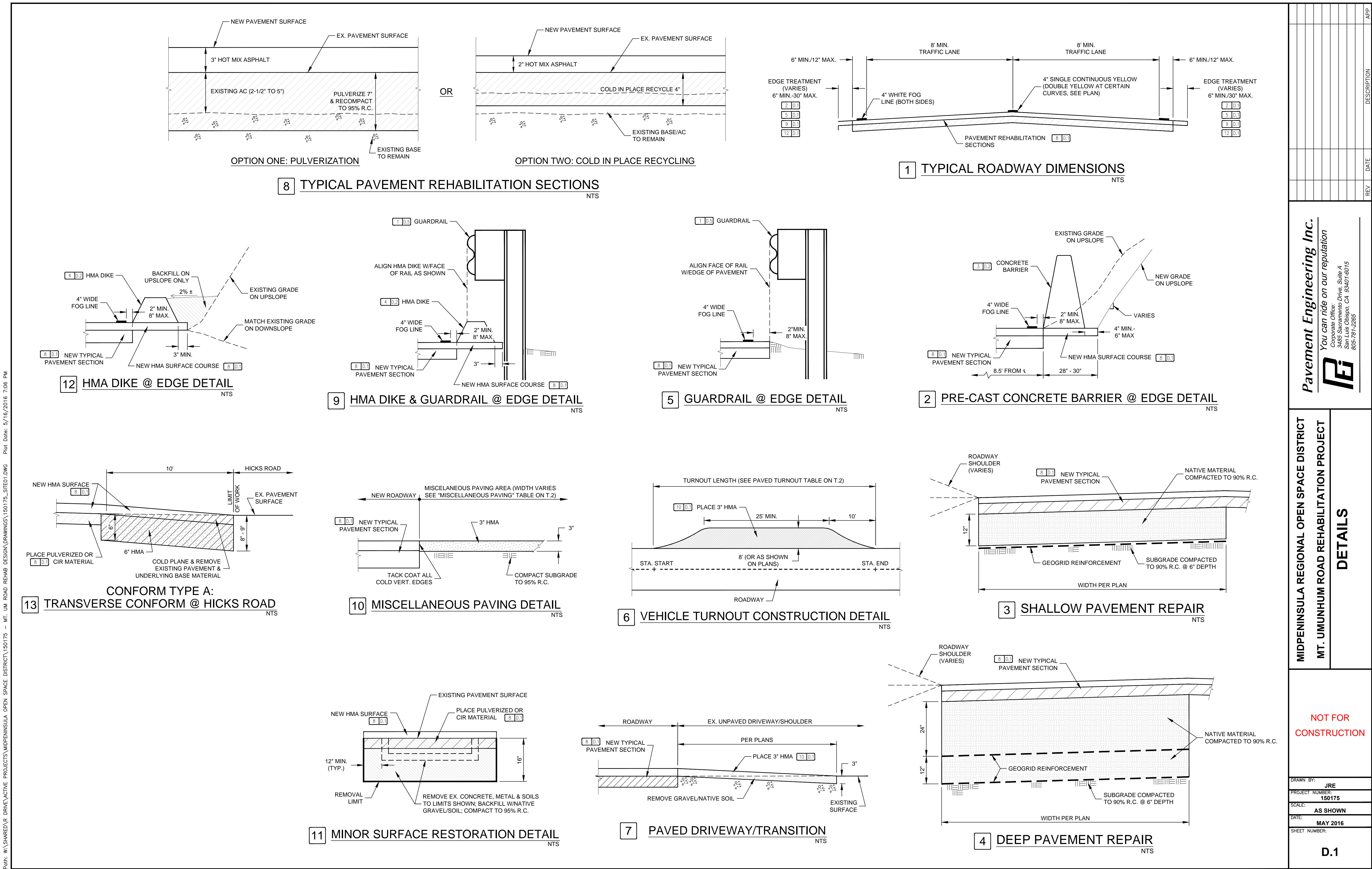
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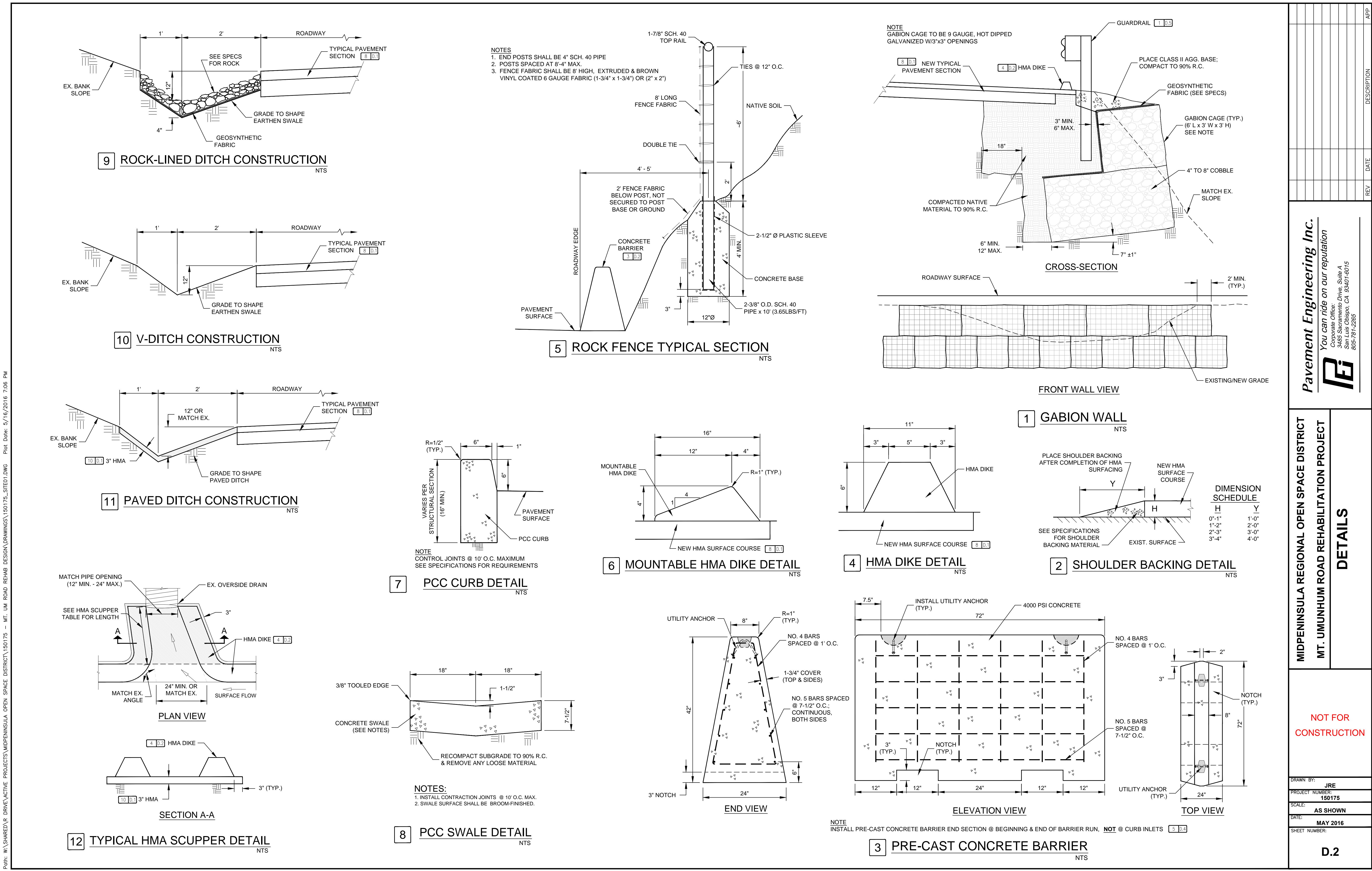
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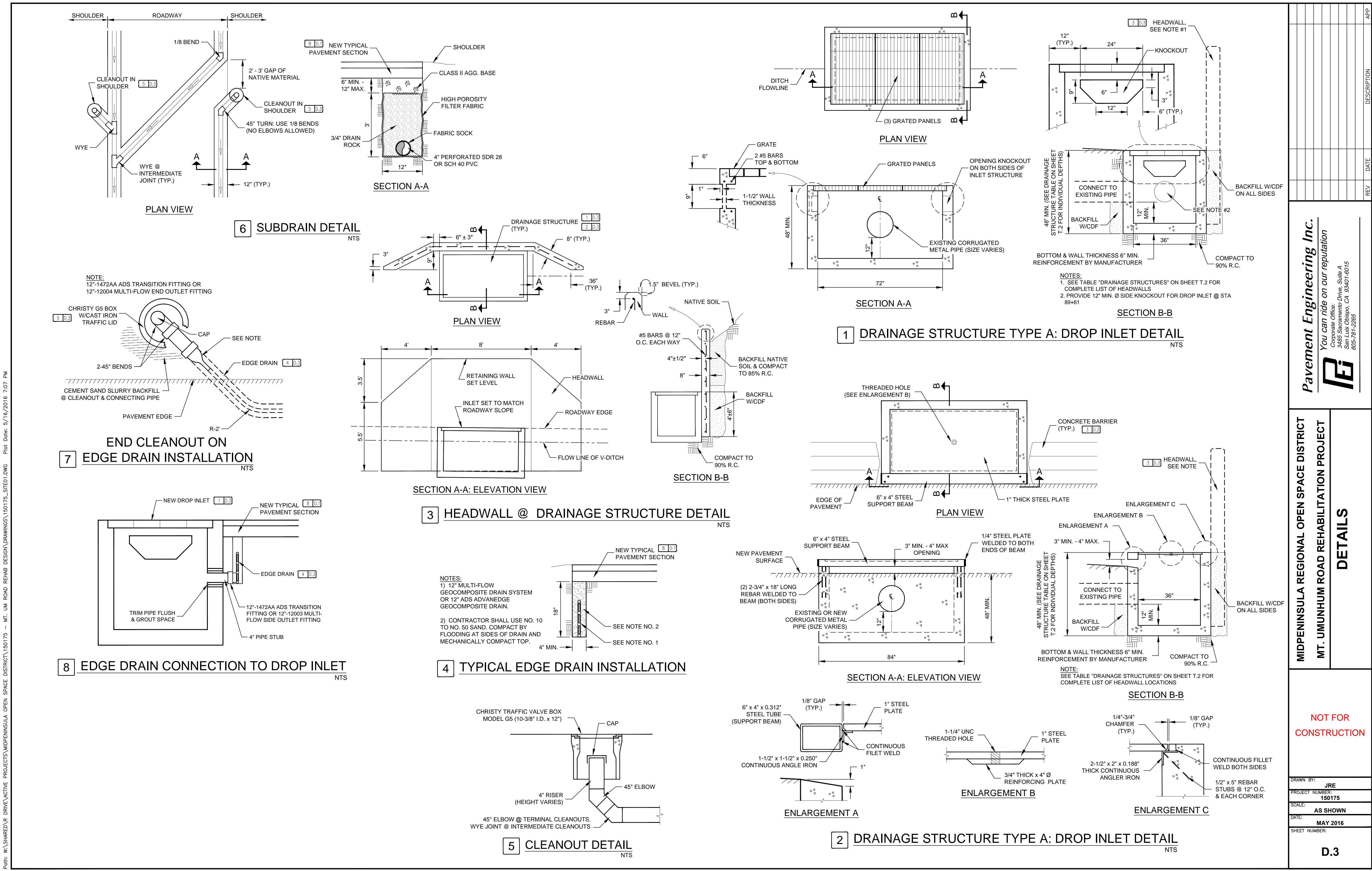
NOT FOR  
CONSTRUCTION

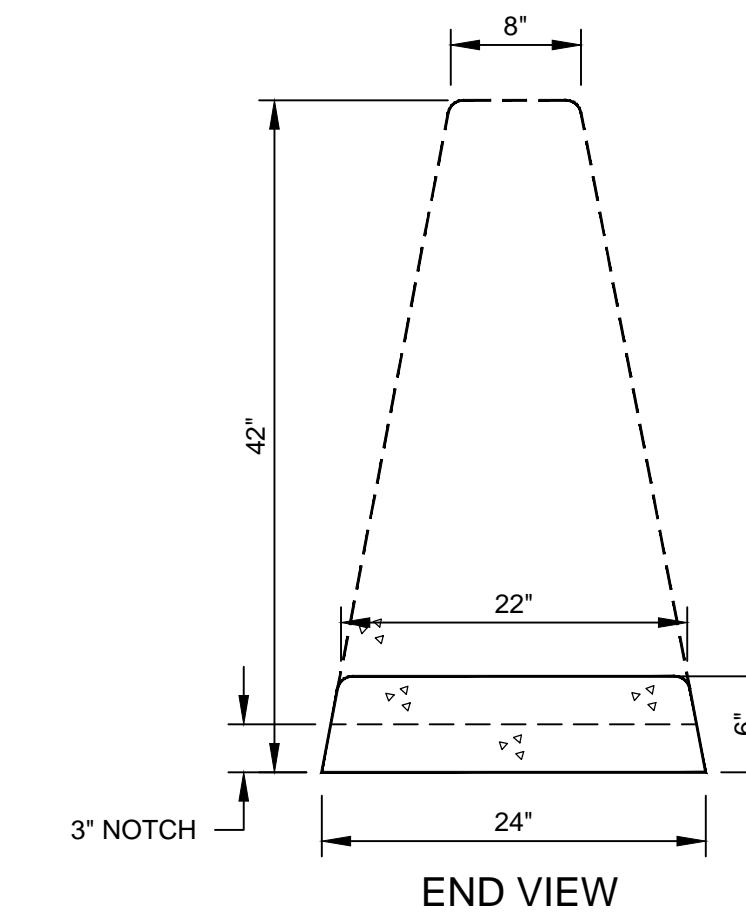
BY:  
**JRE**  
CT NUMBER:  
**150175**  
**1"= 30'**  
**MAY 2016**  
NUMBER:

1.4

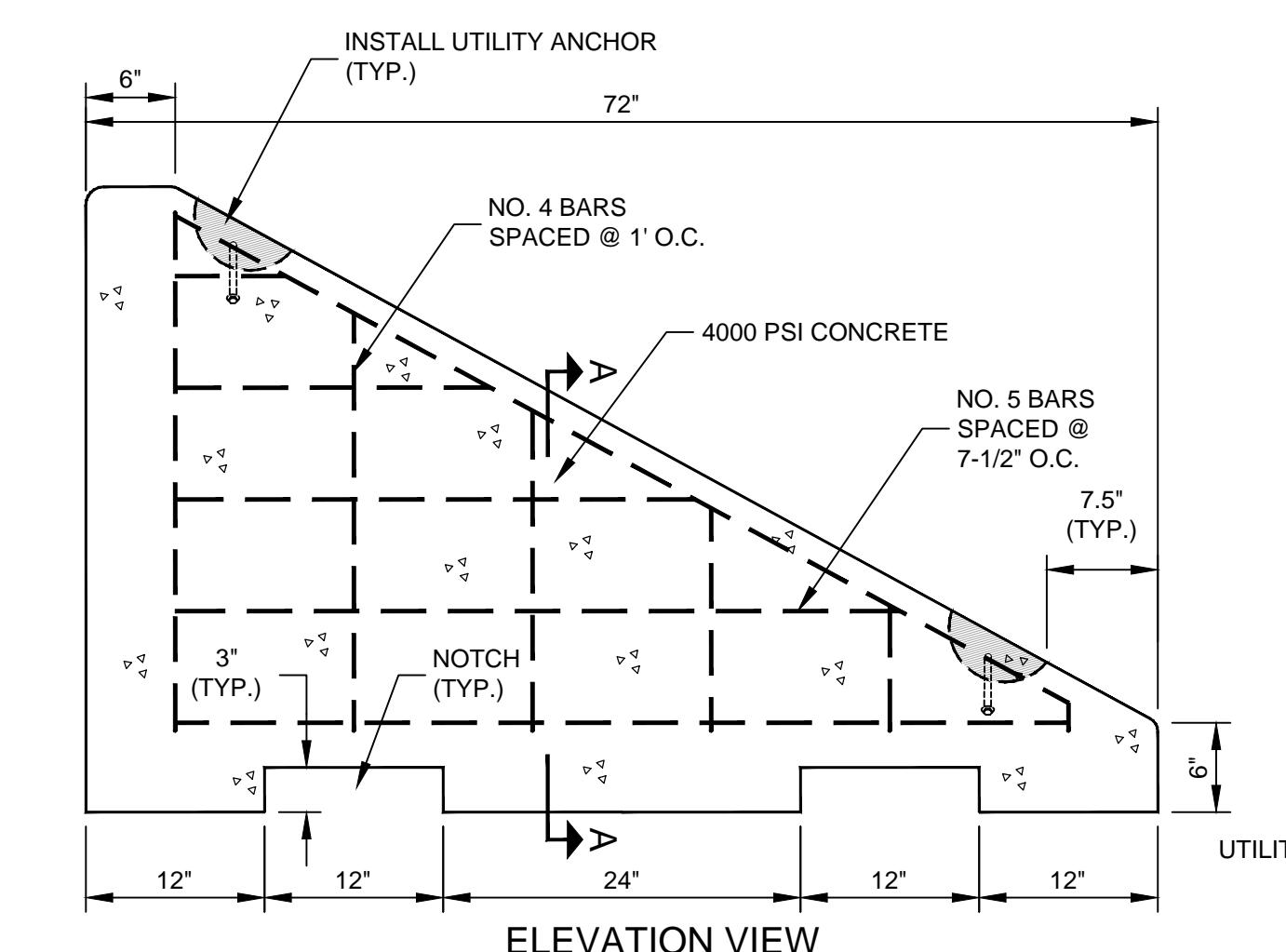




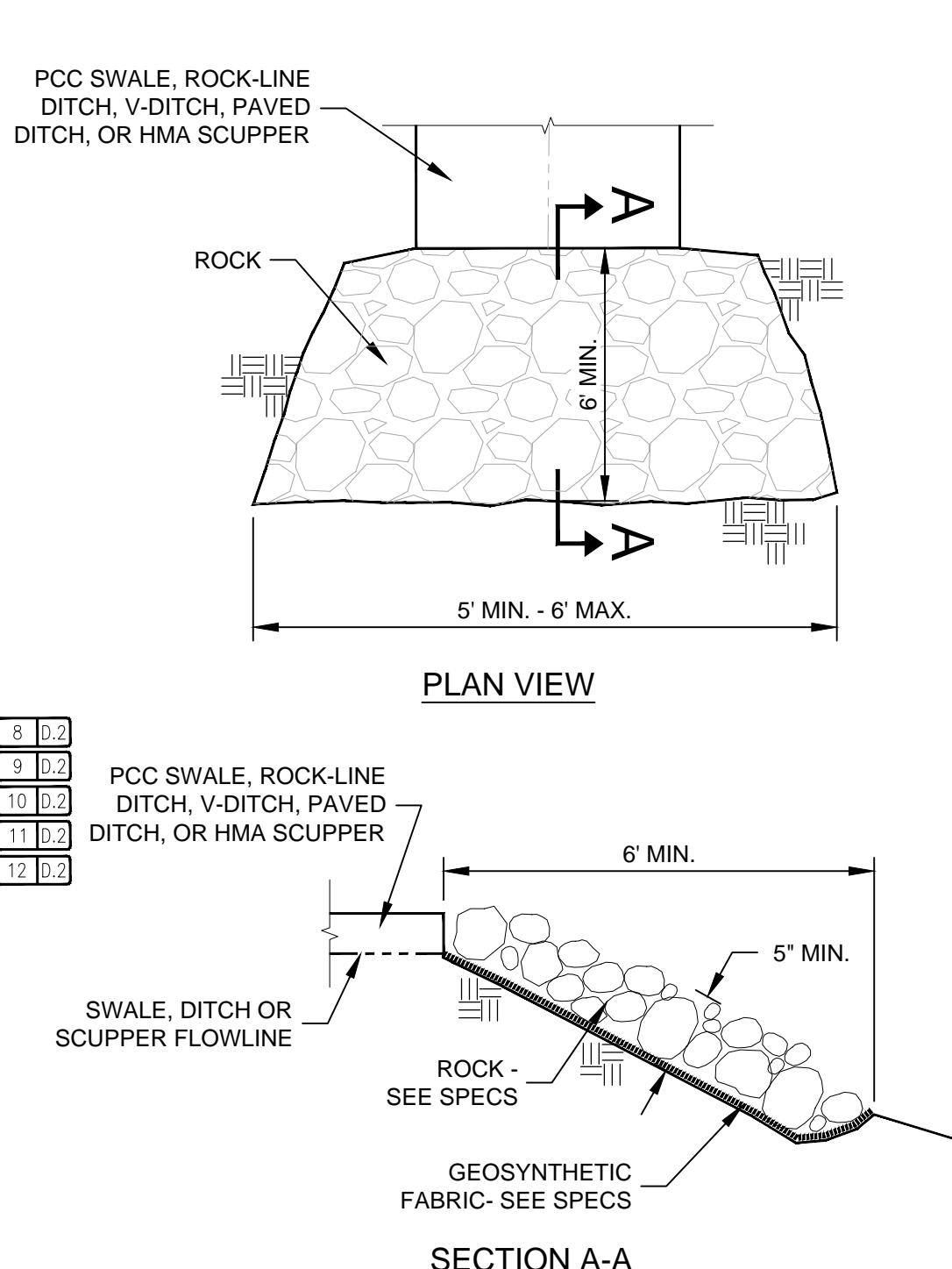




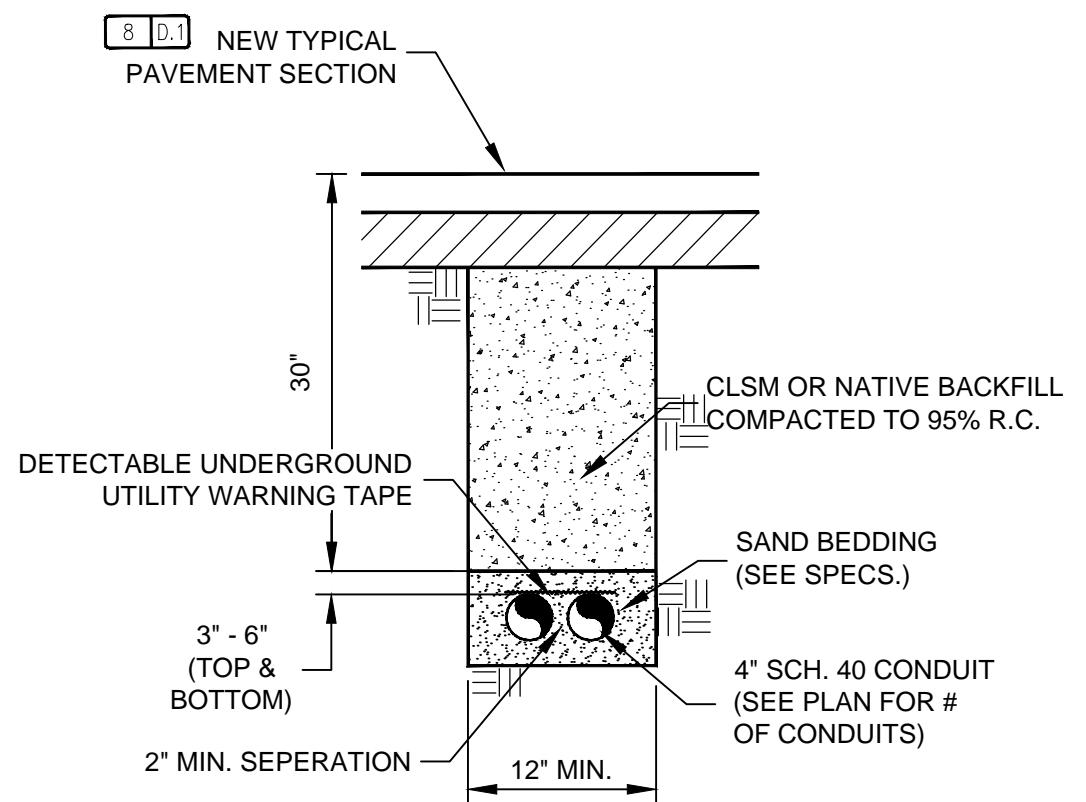
# **5** PRE-CAST CONCRETE BARRIER END SECTION



# **3** ROCK EROSION PROTECTION

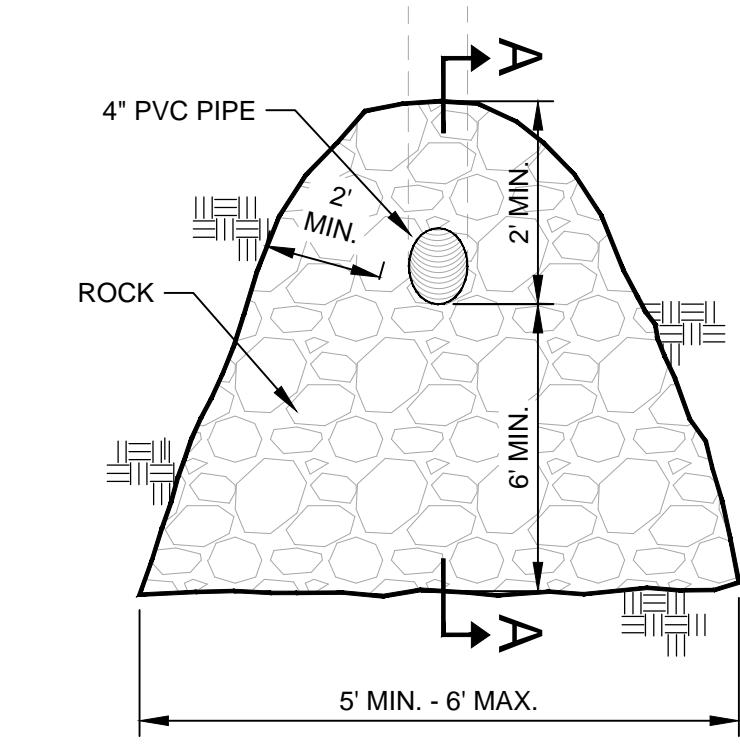


## **2 CONDUIT TRENCH CROSS-SECTION**

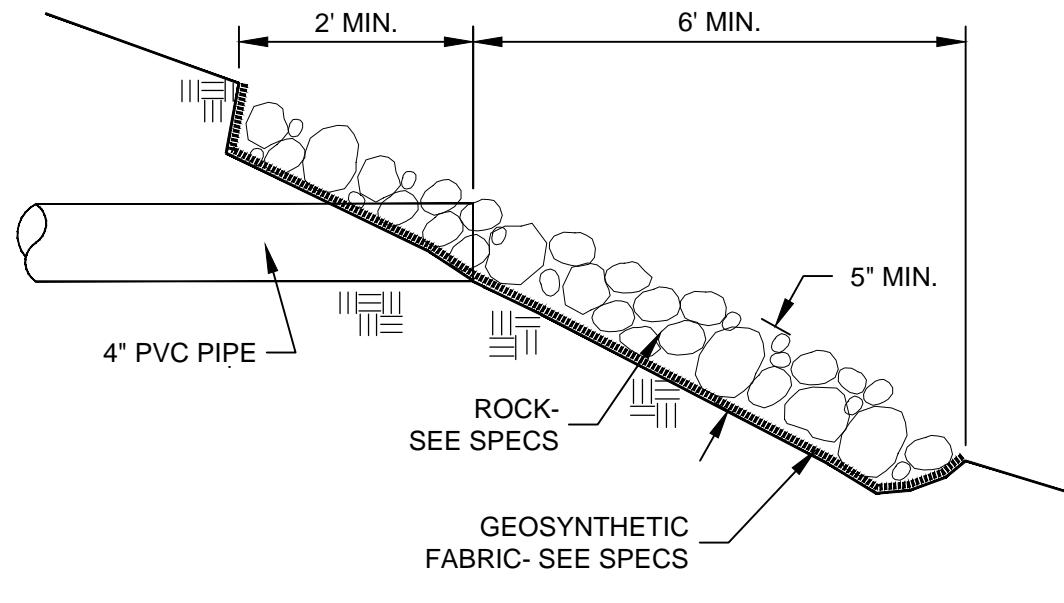


# 1 CULVERT TRENCH CROSS-SECTION

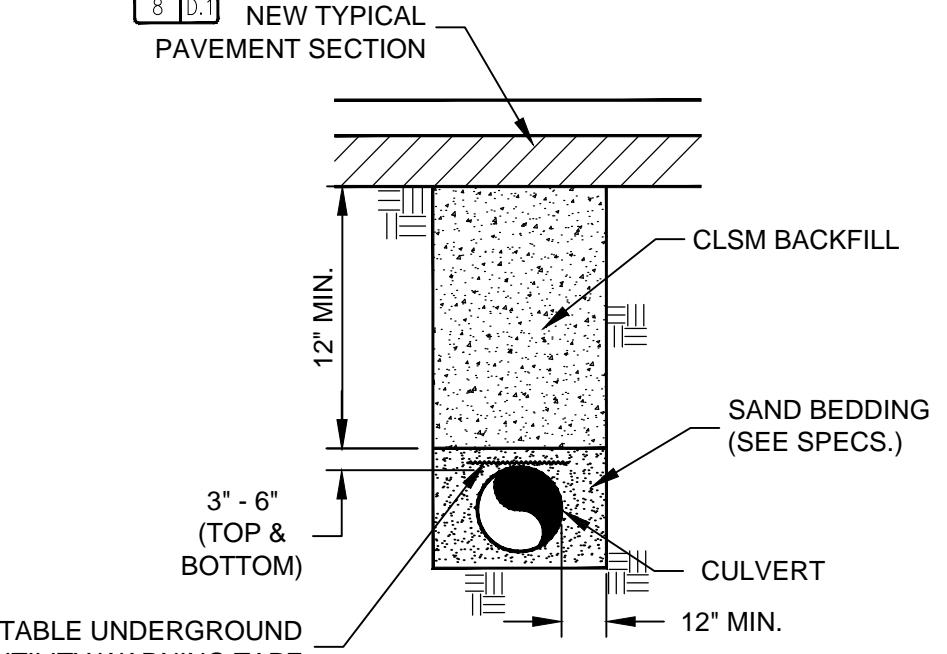
NTS



PLAN VIEW



## **4 EROSION PROTECTION @ SUBDRAIN OUTLET.**



# 1 CULVERT TRENCH CROSS-SECTION

NTS

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*You can ride on our reputation*

Corporate Office:



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**Pavement Engineering Inc.**

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*You can ride on our reputation*

Corporate Office:



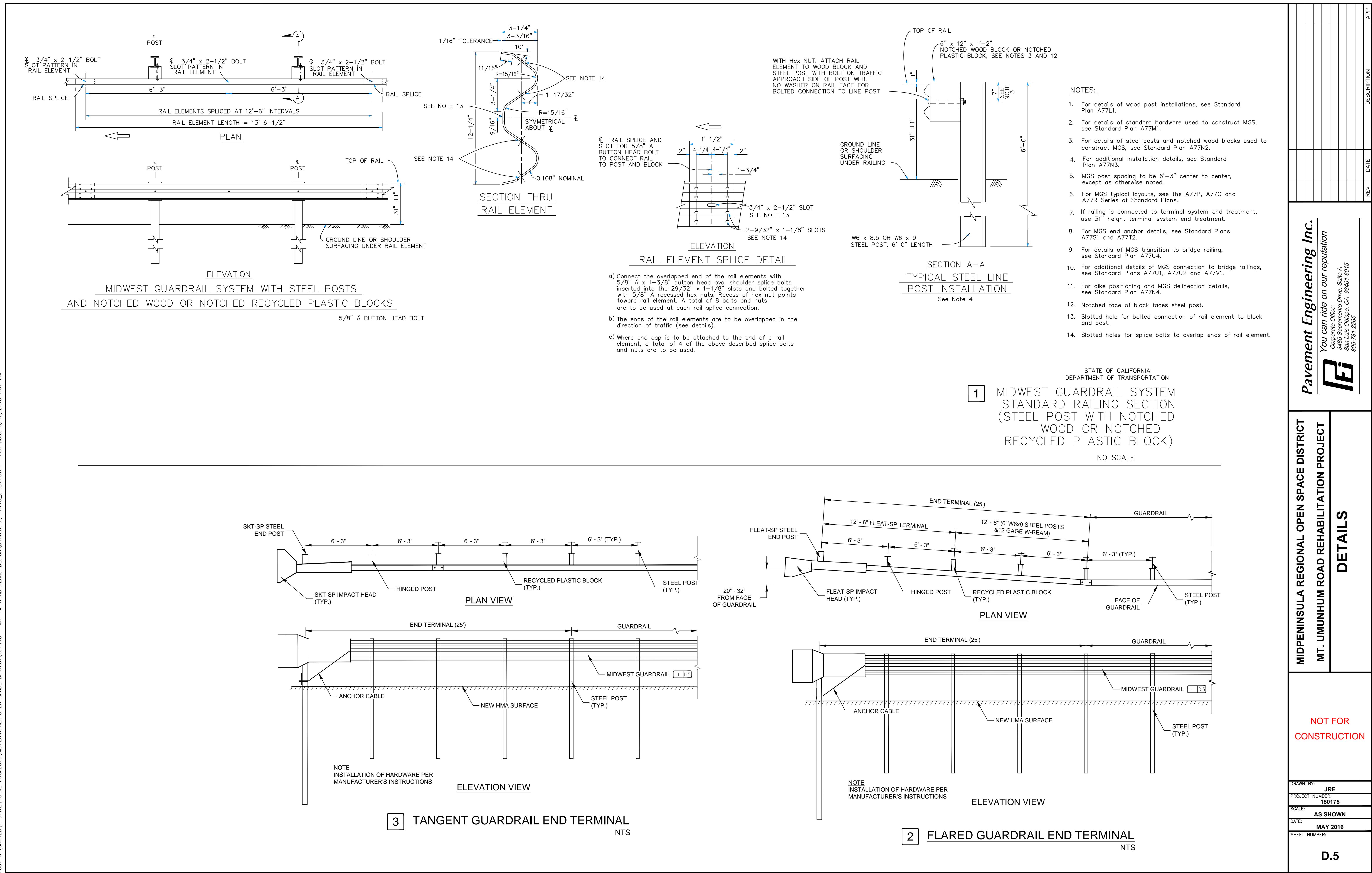
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Fi

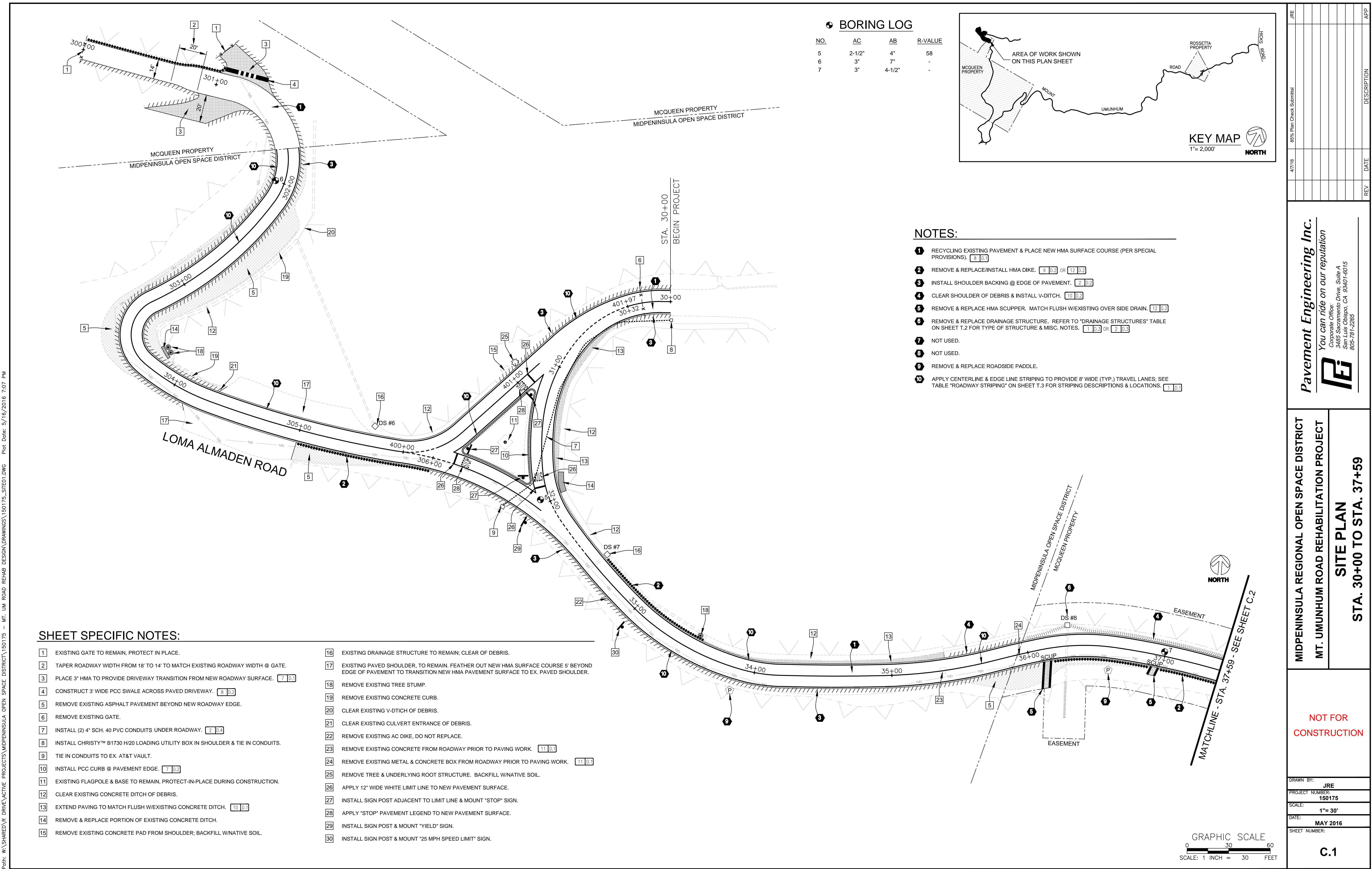
AD REHABILITATION

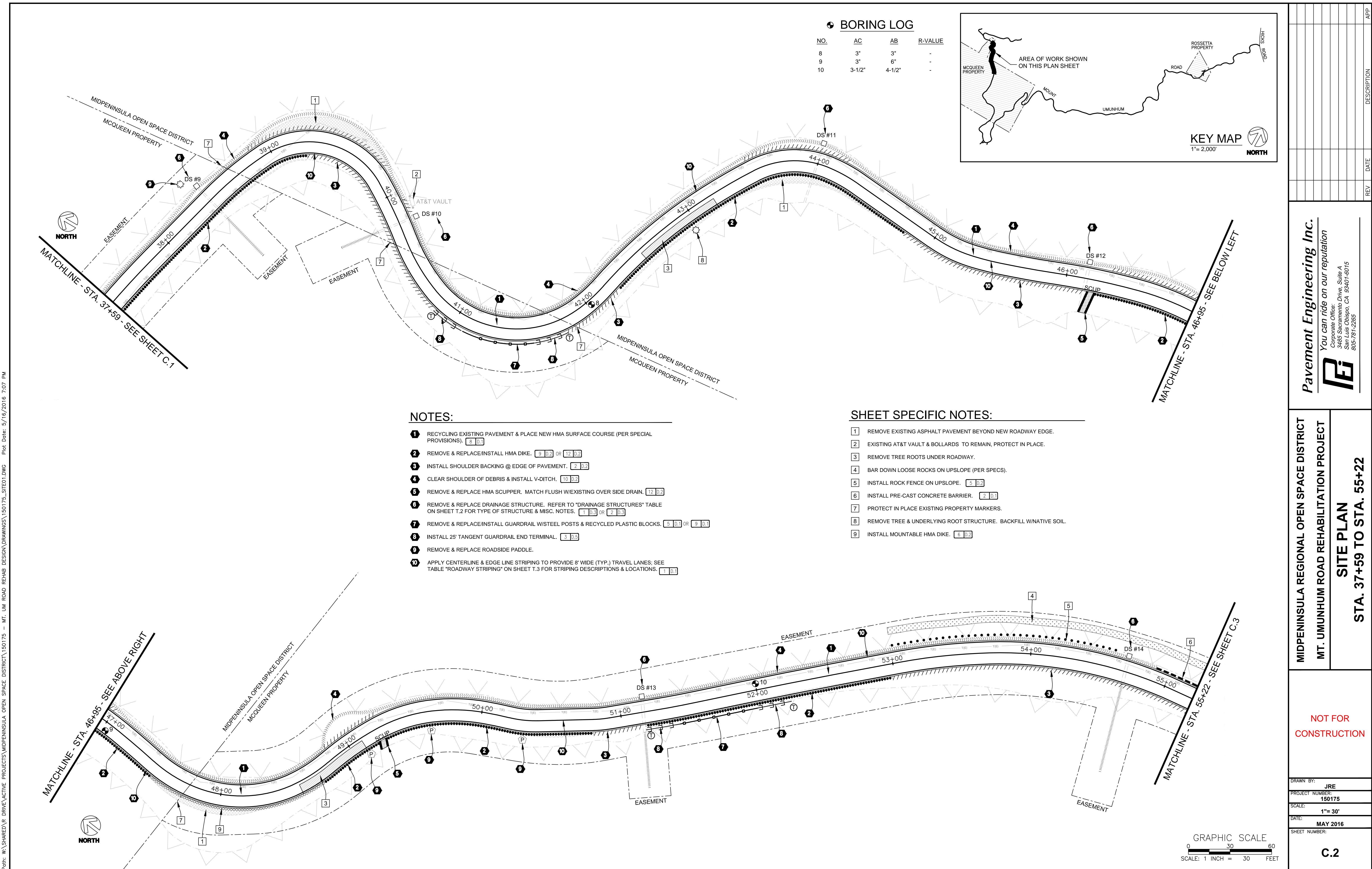
**NOT FOR  
CONSTRUCTION**

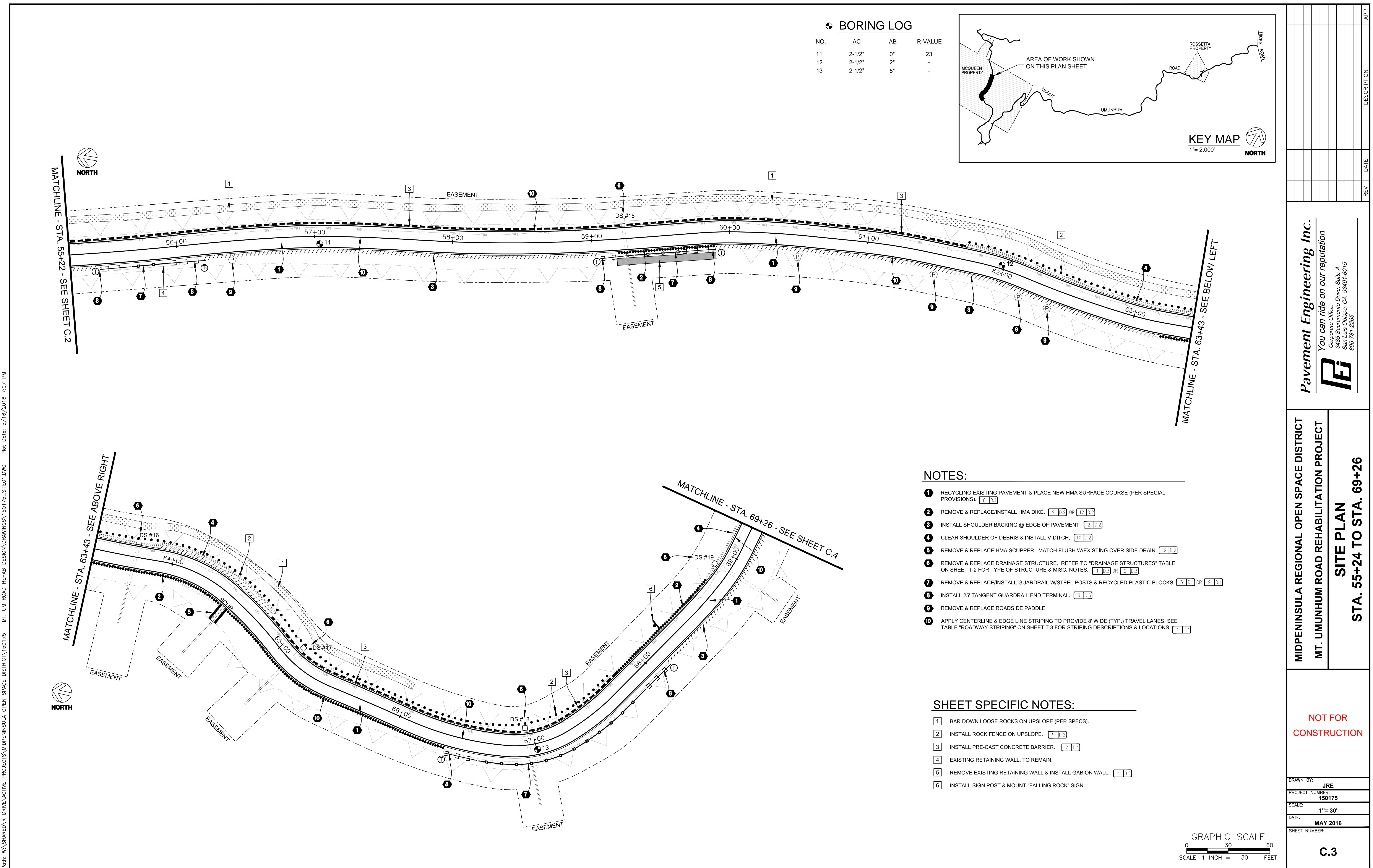
BY:  
**JRE**  
CT NUMBER:  
**150175**  
  
**AS SHOWN**  
  
**MAY 2016**  
NUMBER:

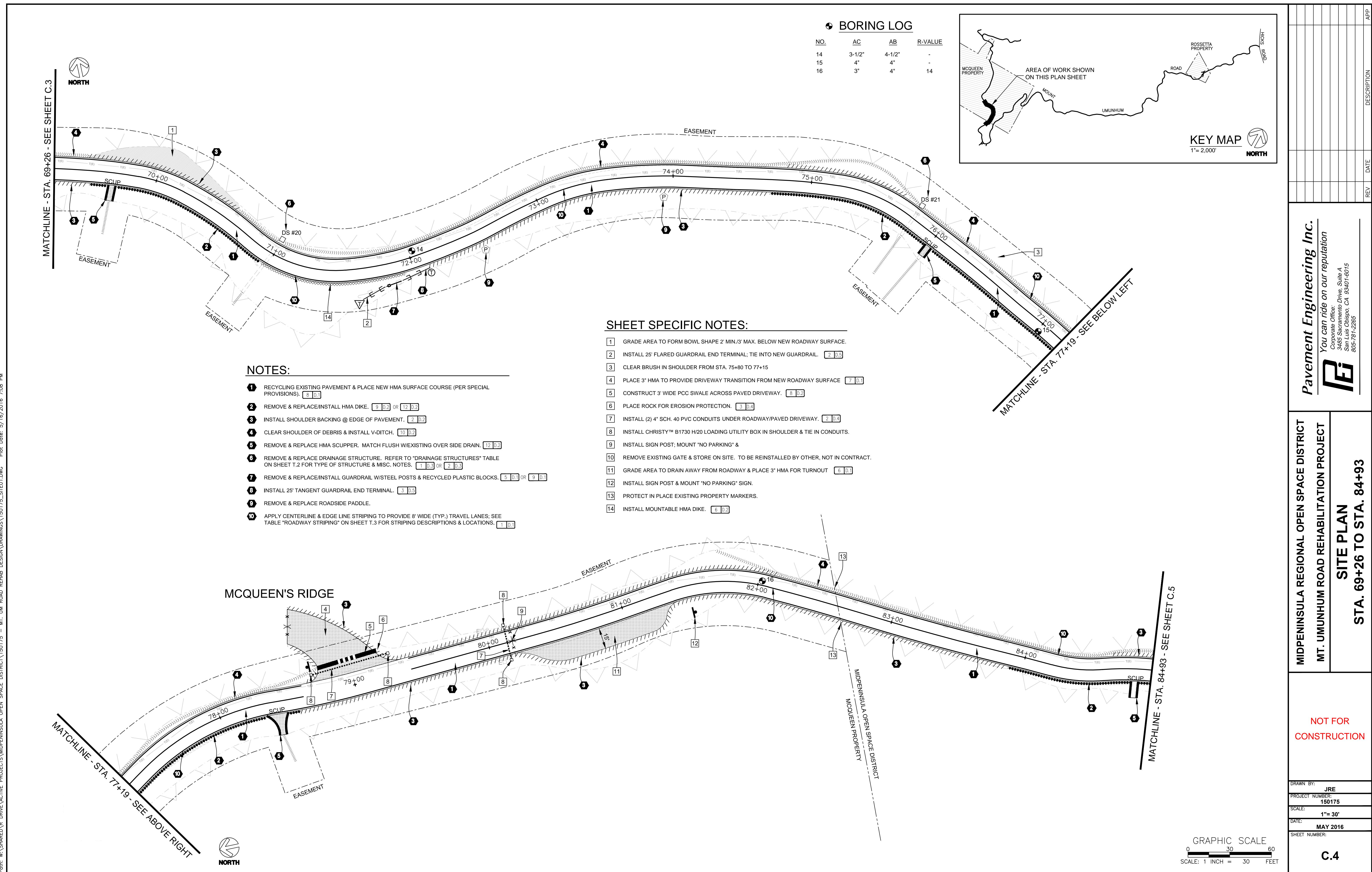
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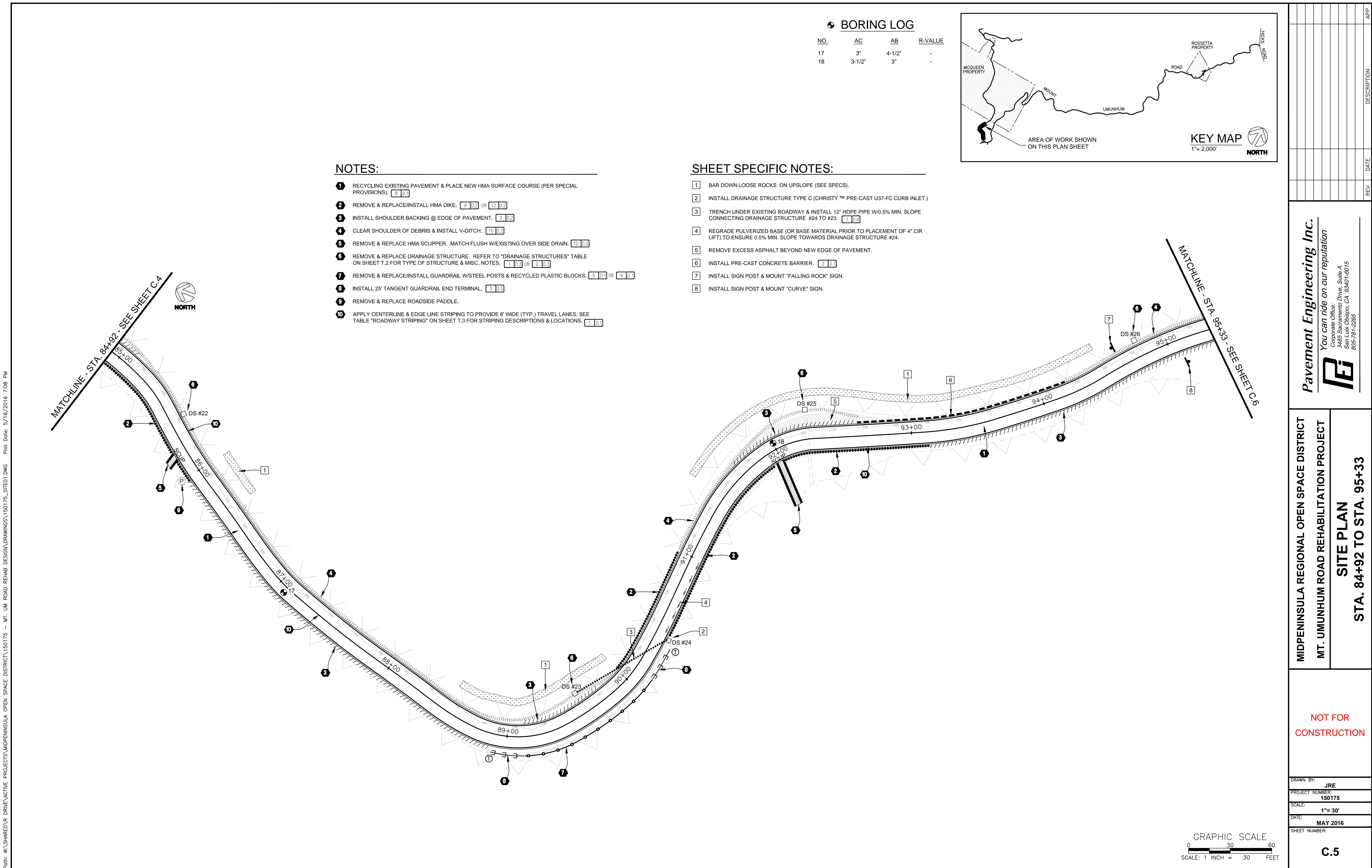


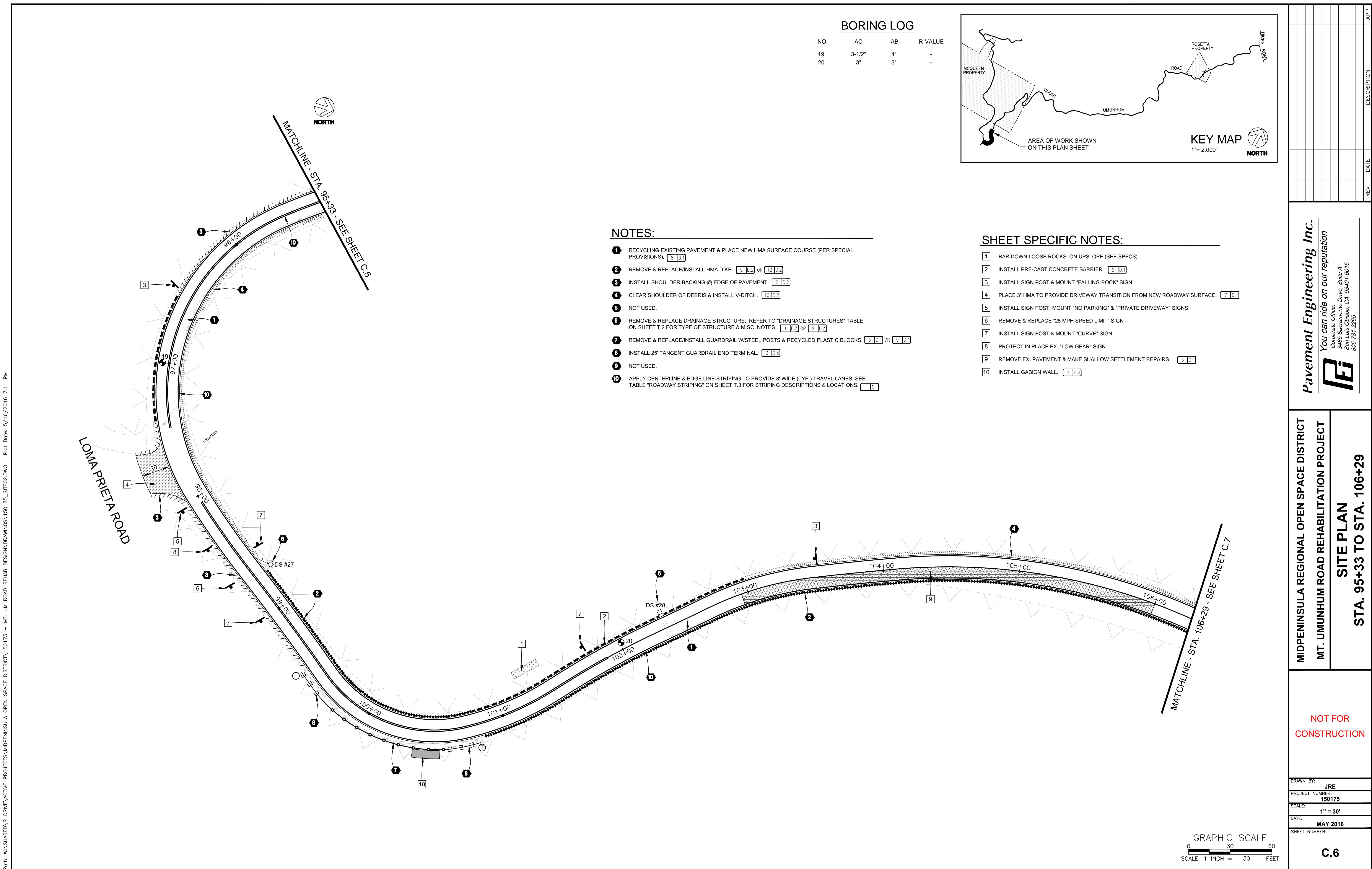


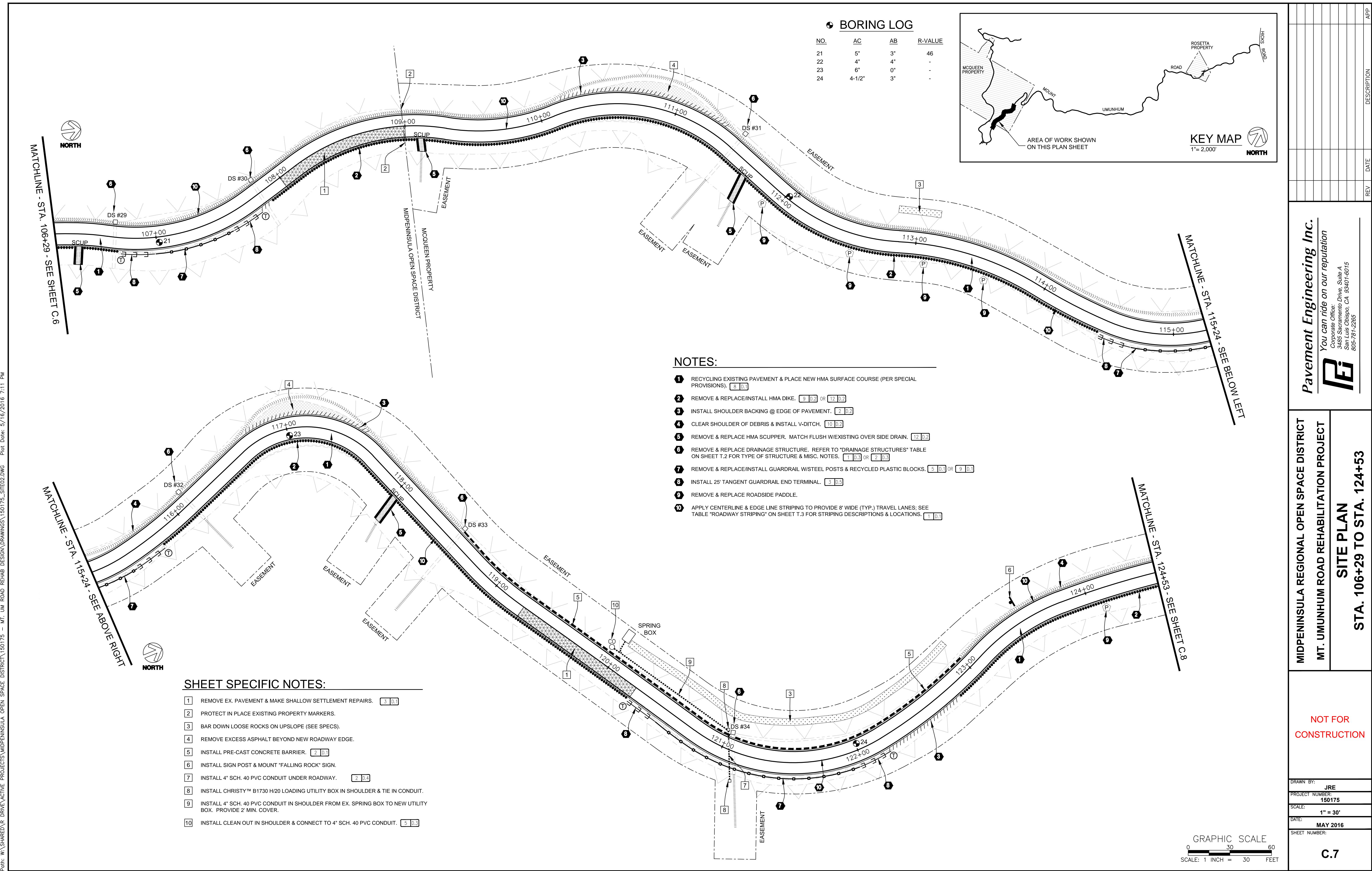


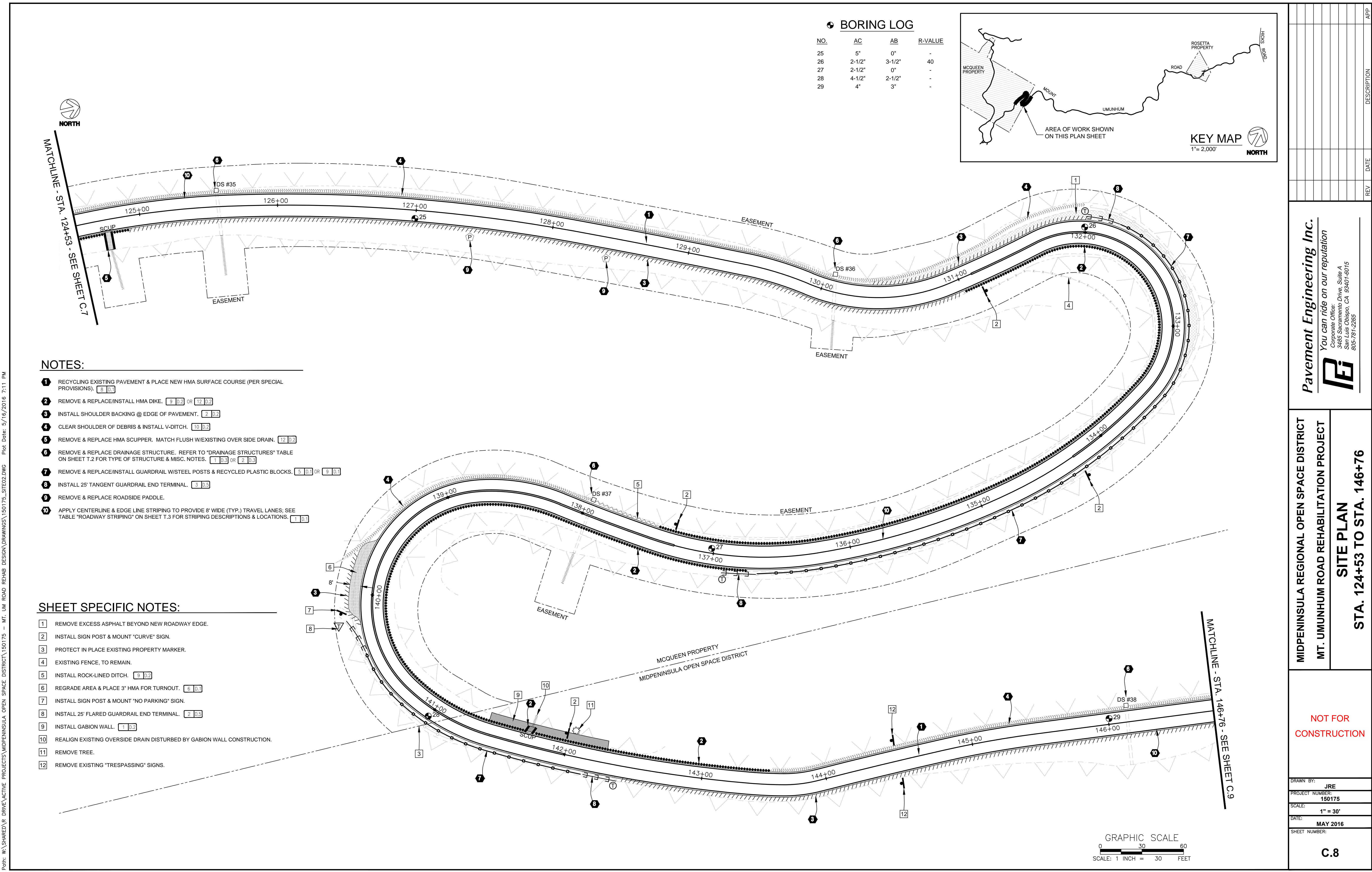


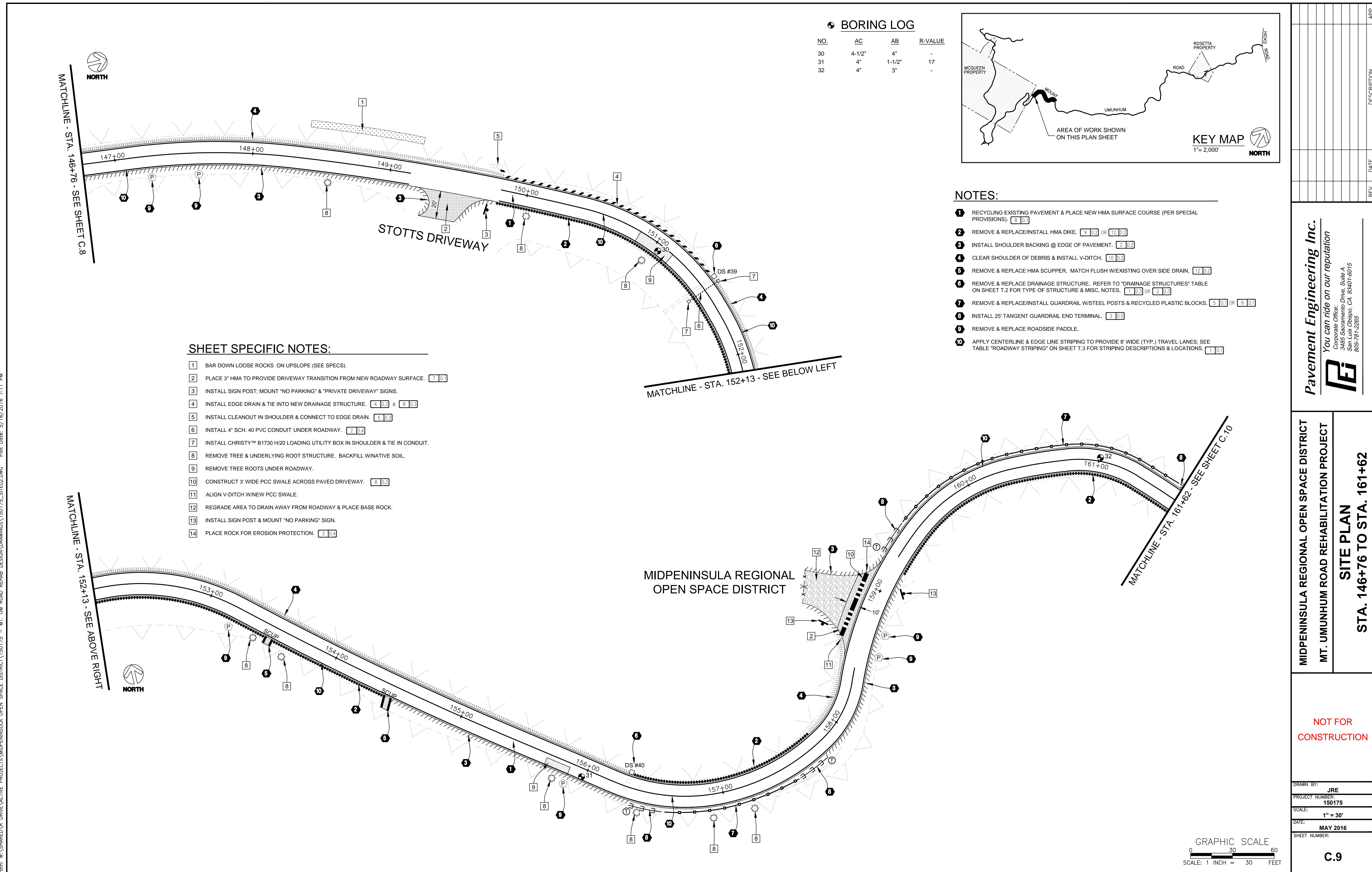


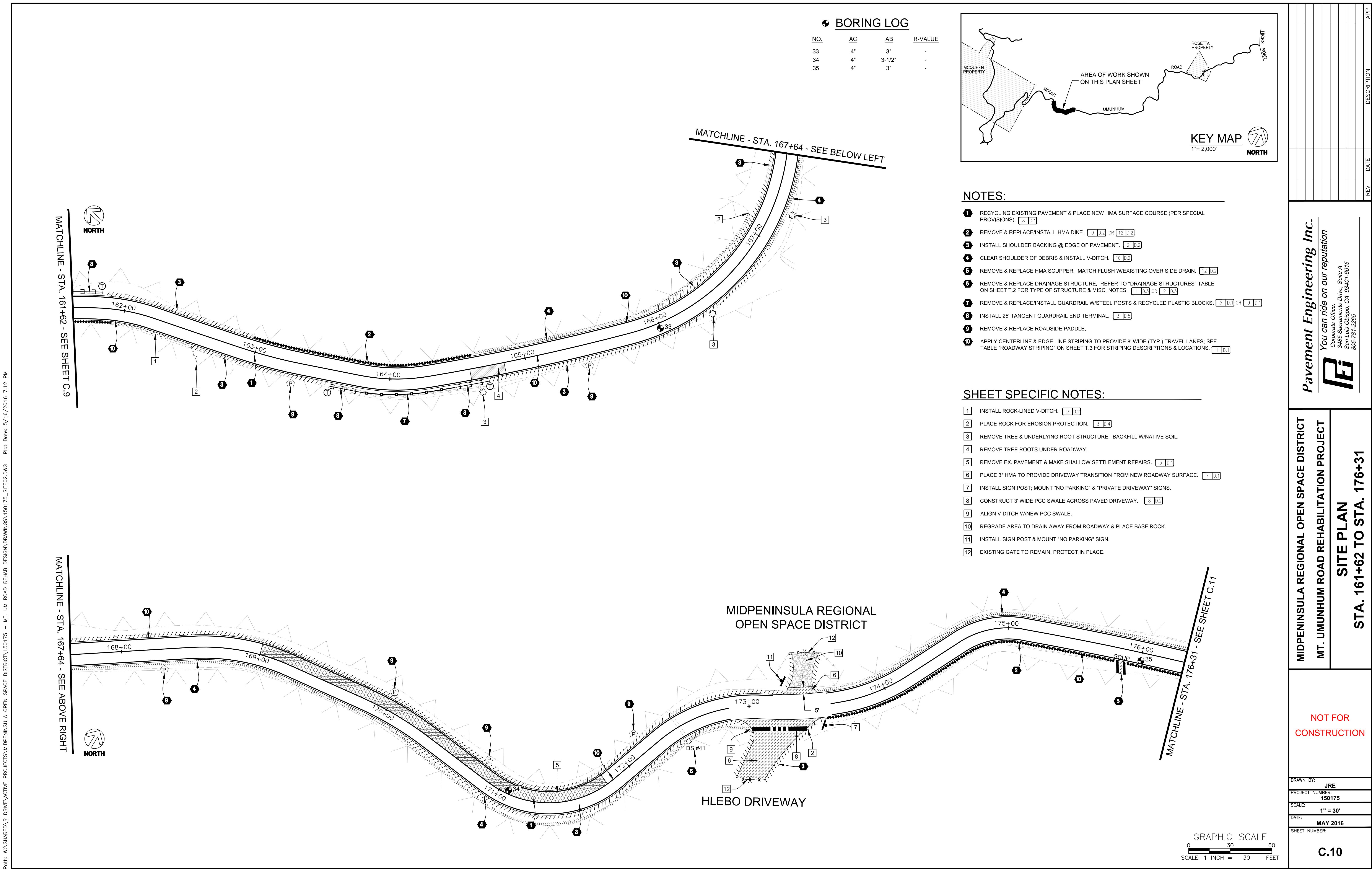


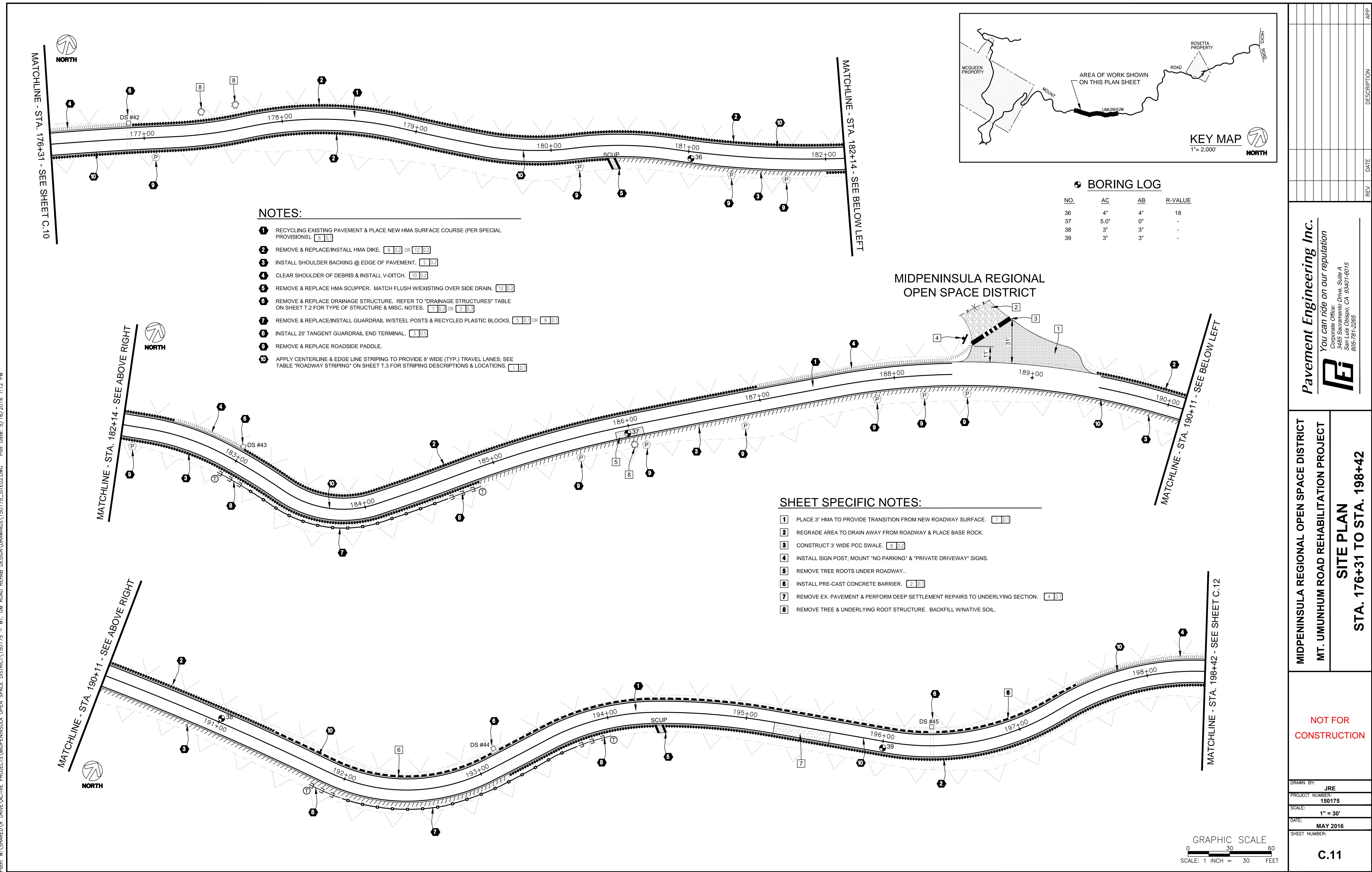


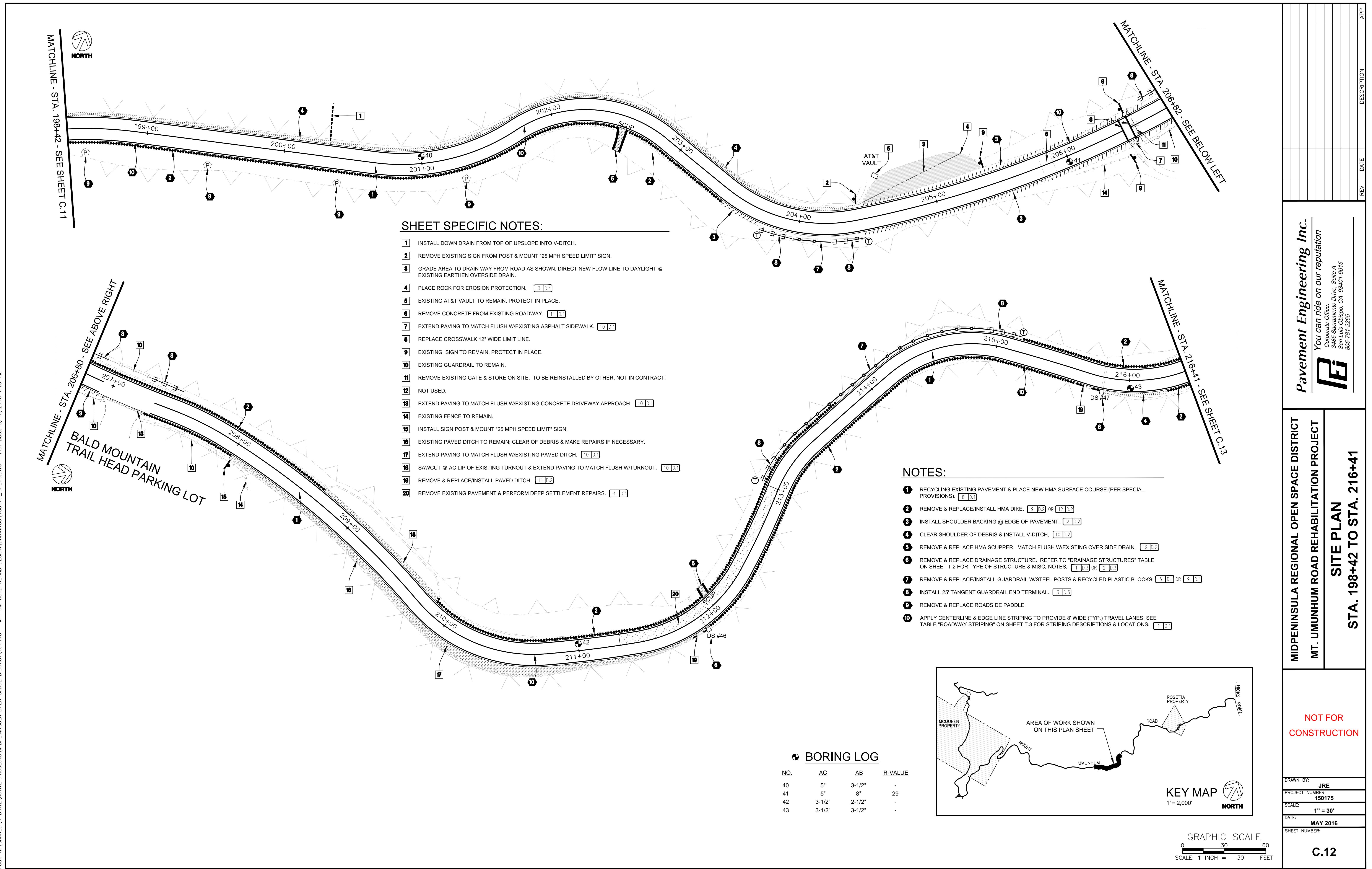


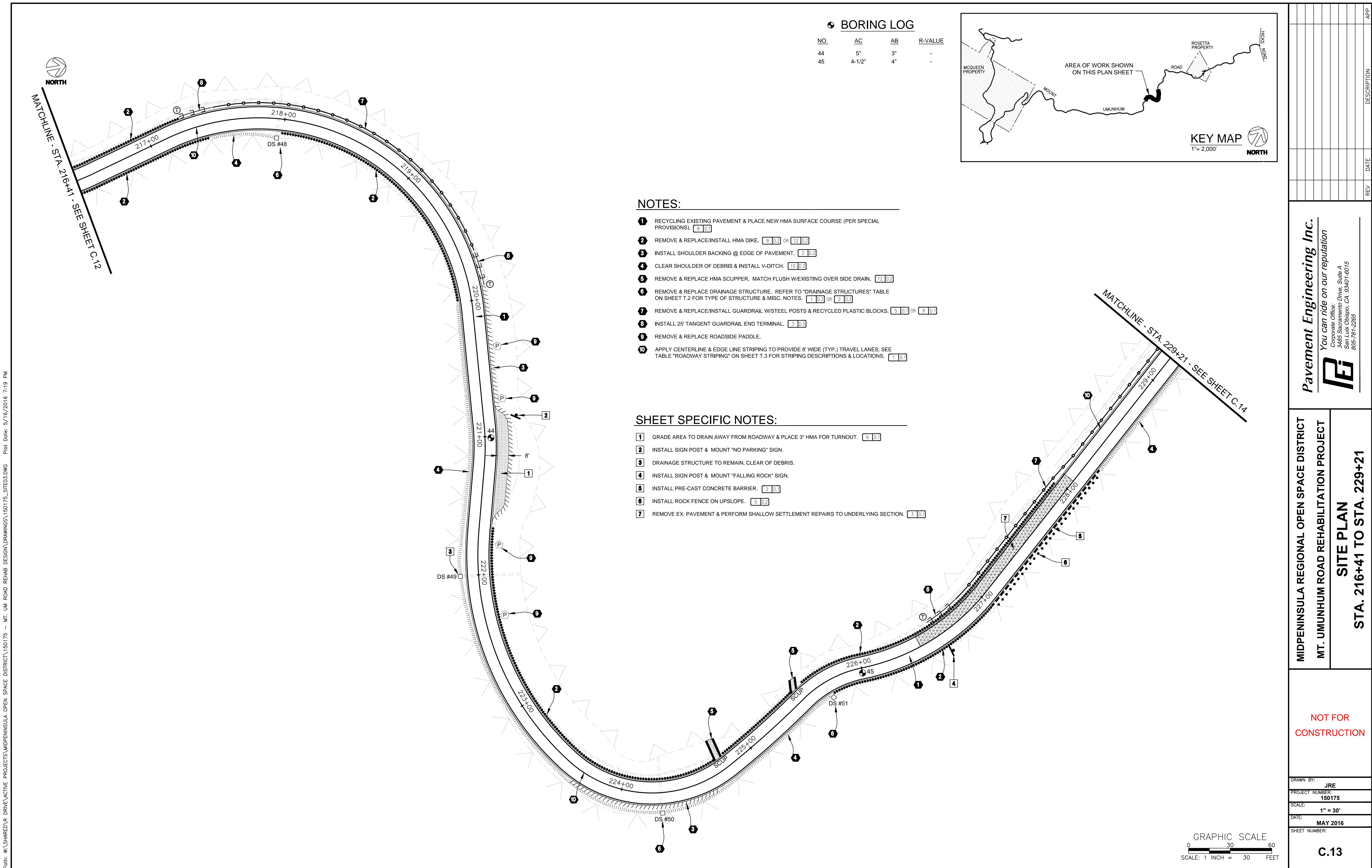


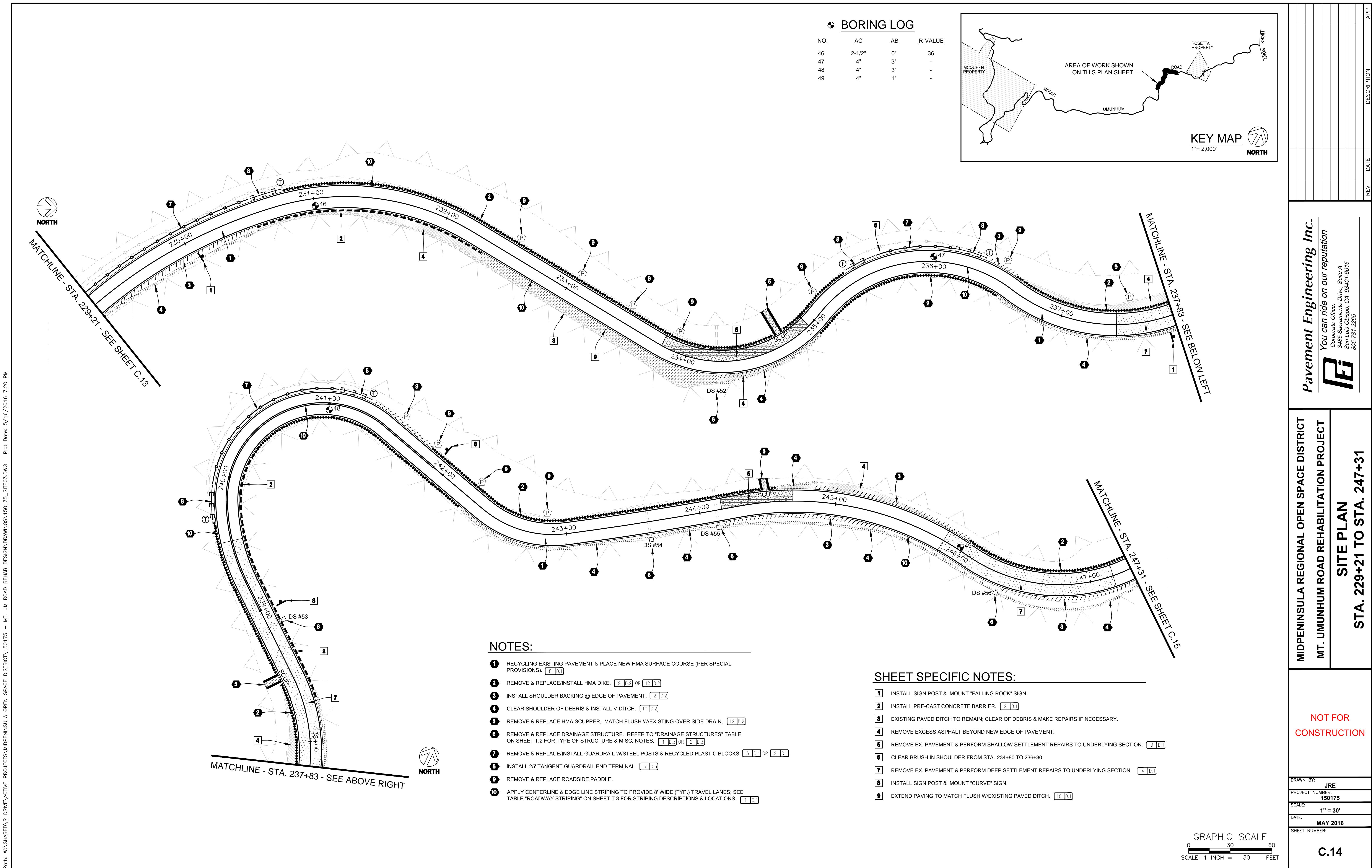


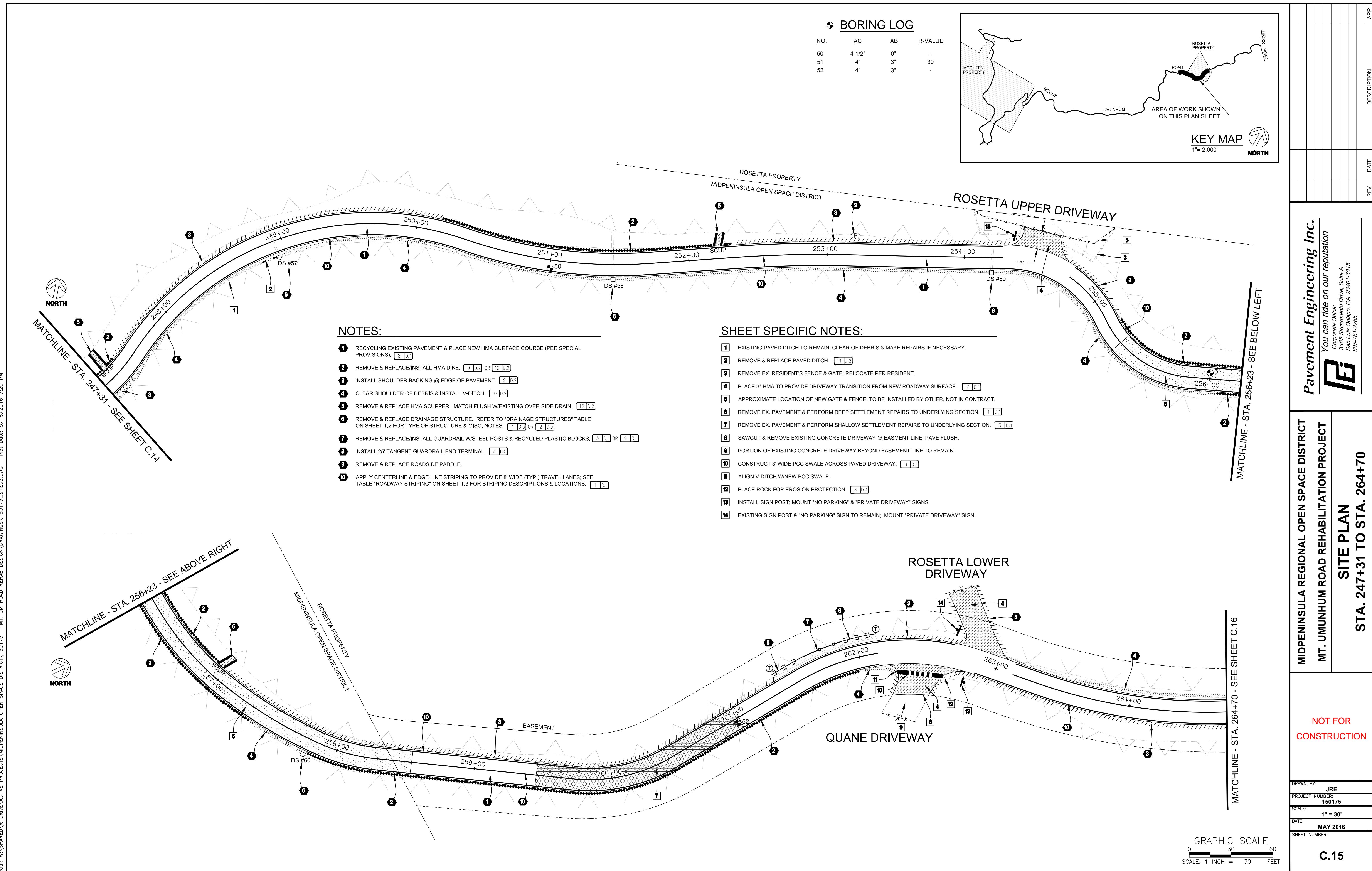


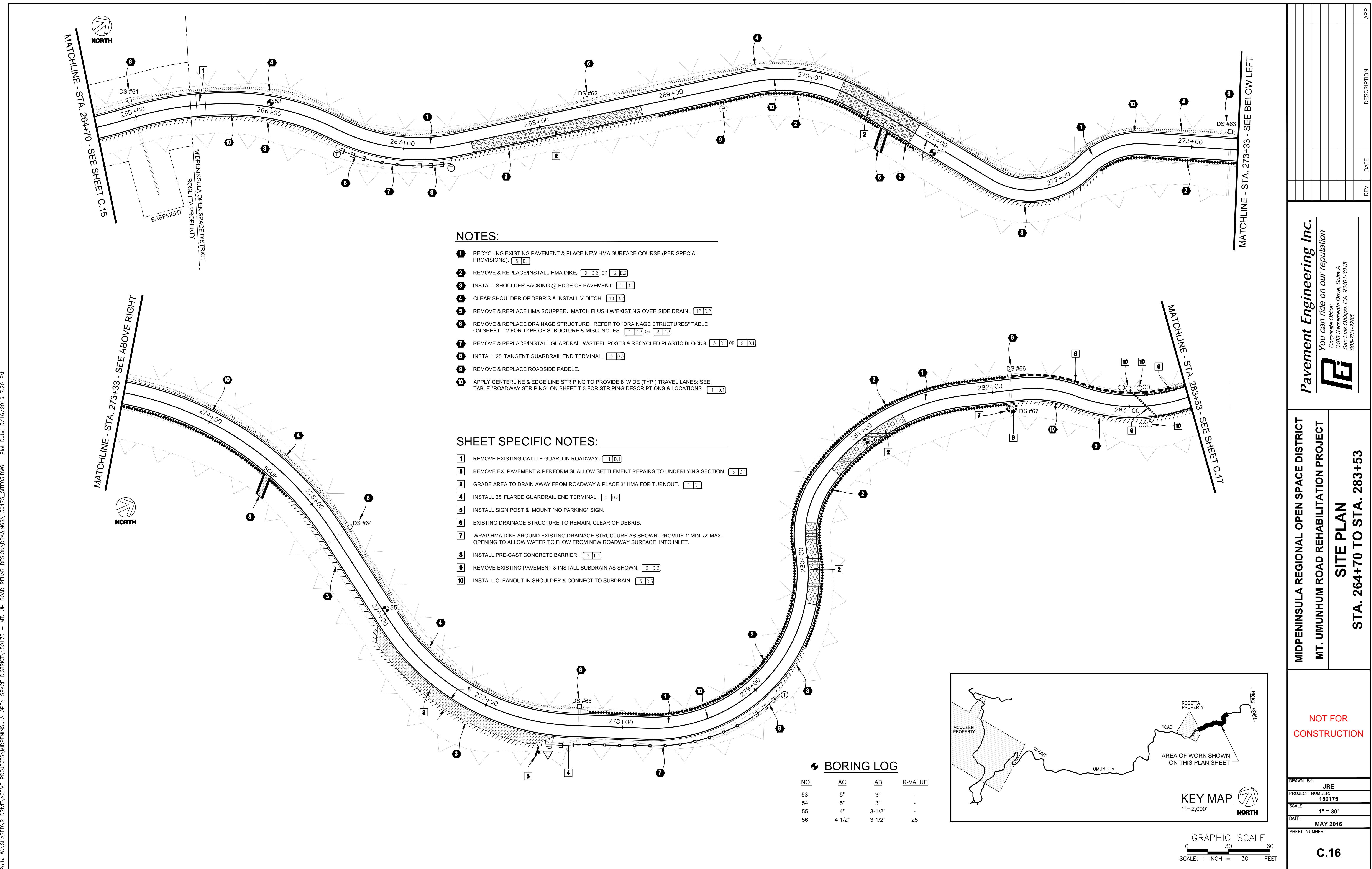


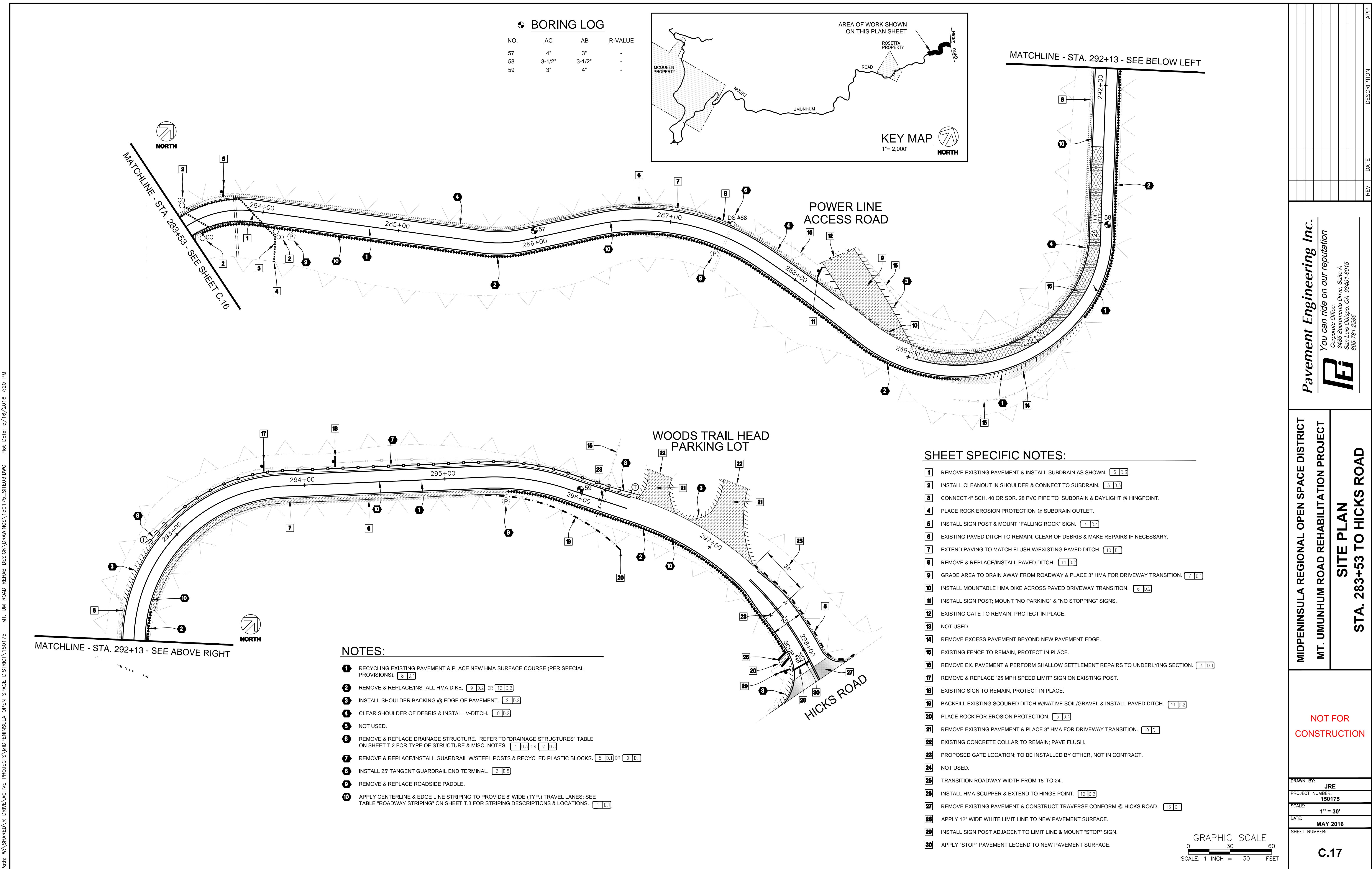












## April 7, 2016 SET

### General Comments

Comment #1: Add SANTA CLARA COUNTY to title block in all sheets.

Comment #2: Missing General Notes, Demolition Notes, Grading Notes, Specifications, Erosion Control, and Construction Notes.

Comment #3: Missing Legend in all Site Plan sheets.

~~Comment #4: Provide scale bar in all Site Plan sheets.~~

Comment #5: Provide road widths in all Site Plan sheets and/or table.

Comment #6: Provide easement widths/dimensions where applicable.

Comment #7: Add Install Property Markers callouts, where applicable. Add detail, specs.

Comment #8: Provide Road Side Marker/Paddle detail.

Comment #9: Add CONTRACTOR RESPONSIBILITY to Remove and Replace Guardrail callouts, where applicable.

Comment #10: Provide tree protection?

Comment #11: Provide Base Rock detail?

Should scuppers in plan view orient as in detail sheet 23?

### Sheet 1: Title Sheet

Comment #1: Add SANTA CLARA COUNTY, CALIFORNIA.

~~Comment #2: Add 17 in Location Map highway bubble.~~

Comment #3: Add SITE PLAN to Sheet Description column for sheets 2 to 19 (or 20?) in Sheet Index.

~~Comment #4: Remove + in Sheet No. column of Sheet Index.~~

~~Comment #5: Adjust Sheet Index table to account for missing Sheet No. 20.~~

Comment #6: Add Install Shoulder Backing in Legend.

Comment #7: Add Conduit and Junction Box in Legend.

Comment #8: Add Gabion Wall in Legend.

### Sheet 3: Site Plan

~~Comment #1: Add Install V-Ditch callout.~~

Comment #2: Provide detail to Remove & Replace Portion of Existing Swale callout (31+50).

~~Comment #3: Provide replacement note and/or detail to Remove Concrete in Roadway callout (35+37).~~

Comment #4: Add gate callouts (EX, REMOVE, or INSTALL). Provide detail if necessary.

~~Comment #5: Remove left side Shoulder Backing where not needed (300+00 to 304+32).~~

Comment #6: ~~Add callout to driveway transitions. Are they paved? Place Base Rock? Missing left Offset from New EP dimension.~~

#### **Sheet 4: Site Plan**

Comment #1: Add range and width to Remove Excess Material callout. Provide detail.

Comment #2: Provide detail for trimming bank.

#### **Sheet 5: Site Plan**

Comment #1: Add Remove & Replace AC Dike callout in top plan view.

Regrade roadway callout – over side drain = scupper?

#### **Sheet 6: Site Plan**

Comment #1: Add Install Shoulder Backing callout in top plan view.

Comment #2: Add range and width to Remove Excess Material callout.

Comment #3: Add callout to paved driveway transition. Missing Offset from New EP dimension. Place Base Rock?

Comment #4: Provide detail for gate removal callout.

Comment #5: 8' width shown in Turnout detail.

Comment #6: Provide specs for No Parking sign.

Comment #7: Provide detail/specs for Property markers.

Comment #8: Provide detail for trimming bank.

#### **Sheet 7: Site Plan**

Comment #1: Add range and width to Remove Excess Material callout.

Comment #2: Provide detail for regrading roadway to provide min. 5% slope.

Comment #3: Add callout, range, and width to Remove Excess Material hatch.

#### **Sheet 8: Site Plan**

Comment #1: Add callout to paved driveway transition. Place Base Rock?

Comment #2: Add Install Shoulder Backing callout.

#### **Sheet 9: Site Plan**

Comment #1: Add Remove & Replace AC Dike callout in bottom plan view.

Comment #2: Provide profile/cross section for new culvert.

Comment #3: Add range and width to Remove Excess Material callouts in top and bottom plan views.

Comment #4: Provide detail for trimming bank.

#### **Sheet 10: Site Plan**

Comment #1: Add Remove & Replace AC Scupper callout.

Comment #2: Add callout, range, and width to Remove Excess Material hatch.

Comment #3: 8' width shown in Turnout detail.

Comment #4: Provide Remove Ex. Signage detail.

#### **Sheet 11: Site Plan**

Comment #1: Add callout to paved driveway transitions. Place Base Rock in top plan view? Missing bottom view Offset from New EP dimension.

Comment #2: Add top and bottom plan views Shoulder Backing callouts.

Comment #3: Floating sign near station 158+70.

Comment #4: Provide specs for No Parking sign.

Comment #5: Install Rock for Erosion Protection – How, where, type of rock, amount?

#### **Sheet 12: Site Plan**

Comment #1: Add Remove & Replace AC Dike callout in top plan view.

Comment #2: Add callout to paved driveway transitions. Place Base Rock in R driveway? Missing R and L Offset from New EP dimensions.

Comment #4: See Zachary Swale comment for sheets 6 and 11.

Comment #5: Install Rock for Erosion Protection – How, where, type of rock, amount?

#### **Sheet 13: Site Plan**

Comment #1: Add callout to paved driveway transition. Missing Offset from New EP dimension.

Comment #2: Provide specs for No Parking sign.

Comment #3: Provide plan for regrading in driveway transition.

Comment #4: Add range and width to Remove Excess Material callouts in middle and bottom plan views.

#### **Sheet 14: Site Plan**

Comment #1: Add callout to paved driveway transition. Place Base Rock in R driveway? Missing Offset from New EP dimension.

Comment #2: Provide detail and/or explain Matching Flush callout in top plan view.

Comment #3: Provide detail and/or explain Match New Pavement callout in bottom plan view.

#### **Sheet 15: Site Plan**

Comment #1: 8' width shown in Turnout detail.

Comment #2: Provide specs for No Parking sign.

#### **Sheet 16: Site Plan**

Comment #1: Add callout to top plan view Pavement Repair.

Comment #2: Clear Brush – Provide width.

#### **Sheet 17: Site Plan**

Comment #1: Add Remove & Replace AC Dike callout in bottom plan view.

Comment #2: Top and bottom plan views - Add callout to paved driveway transitions. Place Base Rock in driveways? Missing bottom view Offset from New EP dimensions.

#### **Sheet 18: Site Plan**

Comment #1: 8' width shown in Turnout detail.

Comment #2: Add range and width to Remove Excess Material callouts in top and bottom plan view.

Comment #3: Provide profile/cross section for new subdrain.

#### **Sheet 19: Site Plan**

Comment #1: Install Rock for Erosion Protection callout in top plan view – How, where, type of rock, amount?

Comment #2: Add callout to paved driveway transitions in top and bottom plan views. Place Base Rock in top and bottom plan views? Missing Offset from New EP dimension in top and bottom plan views.

Comment #3: Provide specs for New Manual Gate Location.

Comment #4: Place Rock for Erosion Protection callout in bottom plan view – How, where, type of rock, amount?

Comment #5: Provide detail for Transition Roadwidth callout in bottom plan view.

Comment #6: Provide detail for Transition New Pavement callout to Hicks Road.

#### **Sheet 21: Item of Work Tables**

Comment #1: AC Dike table – Split each of items 63+22, item 69+52, item 74+70 into two items to account for AC Scupper.

Comment #2: AC Dike table – Split item 83+90 into three items to account for AC Scuppers.

Comment #3: AC Dike table – Missing from station 183+00 to 187+00.

Comment #4: AC Dike table – Station 235+60 does not match Site Plan.

Comment #5: AC Dike table – Item station 240+25 not on Site Plan.

Comment #6: Bar Down/Remove Boulders table – Consider consolidating the three continues items with Beginning Stations 46+20, 47+51, and 48+75.

Comment #7: Bar Down/Remove Boulders table – Replace station 53+00 R with L.

Comment #8: Bar Down/Remove Boulders table – Station 86+00 does not match Site Plan.

Comment #9: Bar Down/Remove Boulders table – Station 148+00 does not match Site Plan Replace R with L.

Comment #10: Bar Down/Remove Boulders table – Item station 234+50 not on Site Plan.

Comment #11: AC Scupper table – Missing scupper near station 49+25.

Comment #12: AC Scupper table – Revise item at station 64+70 to 69+70.

Comment #13: AC Scupper table – Replace station 212+10 R with L.

Comment #14: Concrete Barrier table – Replace station 96+50 L with R.

Comment #15: Base Rock Turnouts table – Add Turnout Length column, per sheet 22 detail.

Comment #15: Base Rock Turnouts table – Station 140+45 does not match Site Plan.

Comment #16: Drainage Structures table – #20 does not match Site Plan labeling.

Comment #17: Drainage Structures table – Replace station 217+99 L with R.

Comment #18: Paved Ditch table – Item station 292+80 not on Site Plan.

Comment #19: Paved Driveways/Transitions table – Add L to Item station 296+40.

Comment #20: Add line under second header.

Comment #21: Guardrail & End Terminals table – Revise item at station 106+75.

Comment #22: Settlement Repairs Under Roadway table – Item station 237+40 not on Site Plan.

Comment #23: Remove Tree table – Missing trees near stations 153+40, 153+60, 164.25.

Comment #24: Rock Fence table – 53+00 to 53+90 does not match Site Plan.

Comment #25: Roadside Paddles table – 154+75 does not match Site Plan.

Comment #26: Roadside Paddles table – Replace station 201+30 L with R.

Comment #27: Shoulder Backing table – Split item 97+45 into two items to account for driveway.

Comment #28: Shoulder Backing table – Split item 252+30 into two items to account for driveway.

Comment #29: Shoulder Backing table – Split item 296+34 into three items to account for driveways.

Comment #30: V-Ditch table – 61+60 to 78+73 does not match side on Site Plan.

Comment #31: V-Ditch table – 79+30 to 82+16 does not match Site Plan.

Comment #32: V-Ditch table – Item 198+00 not in correct row.

Comment #33: V-Ditch table – 242+25 to 256+05 does not match Site Plan.

Comment #34: V-Ditch table – 297+45 to 298+30 does not on site plan.

### **Sheet 22: Details**

Comment #1: Shallow and Deep Pavement Repair details – Called out as Settlement Repair in Site Plan Sheets and in sheet 21.

NEW COMMENT (2016-04-27): Pre-Cast Concrete Barrier @ Edge detail – 8.5' FROM CL callout should be 8' from center line. Callout is cut off.

Comment #2: Vehicle Turnout Construction detail – Grade to where?

### **Sheet 23: Details**

Comment #1: Rock Fence Typical Section detail – Detail shows Roadway Edge. Show V-Ditch.

Comment #2: Rock Fence Typical Section detail – Specify footing material.

Comment #3: Rock Fence Typical Section detail – Show distance from bottom of 2-3/8" pipe to bottom of footing.

Comment #4: Culvert Trench Cross-Section detail – Add Compaction % to backfill.

Comment #5: Gabion Wall detail – Add Compaction % to Class II AGG, Base.

Comment #6: Conduit Trench Cross-Section detail – Add a Tie In New Conduits note.

Comment #7: Pre-Cast Concrete Barrier detail – Bevel dimension.

**Sheet 24: Details**

Comment #1: Subdrain detail – Provide compaction requirements for native material, backfill material.